

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.04.93
Test oil : ISO 4113

Combination No. : 0402646970

Injection pump
Pump designation : PE6P120A320RS7248Y
EP type number : 0412626863

Governor
Governor design. : RQV275...1150PA986
Governor no. : 0421813920

Cust. part No. : 1248046

Customer-spec. information

Customer : DAF
Motor : RS 180 L
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1680750089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.75
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 147.5
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 275
 Rack travel in mm : 5.40
 Tolerance mm : +- 0.10
 Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1340

Rack travel in mm : 9.70
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Del. quantity
 cm³/1000 strokes : 147.5
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever position degree	:	120.0
tolerance degree	:	+- 4.0
rack travel mm	:	9.70
Rated speed rpm	:	1185
Tolerance 1/min	:	+- 5
rack travel mm	:	4.00
Rated speed rpm	:	1280
Tolerance 1/min	:	+- 15
rack travel mm	:	0.70
Tolerance mm	:	+- 0.70
Rated speed rpm	:	1450

LOW IDLE

control lever position degree	:	83.0
tolerance degree	:	+- 4.0

Testing:

Rated speed rpm	:	275
rack travel mm	:	4.70
Tolerance mm	:	+- 0.10
Rated speed rpm	:	175
CRT mm min.	:	> 6.70

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 340

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	600
rack travel mm	:	10.75
Tolerance mm	:	+- 0.05

MEASUREMENT

Rated speed rpm	:	600
rack travel mm	:	9.50

Tolerance mm : +- 0.10
Rated speed rpm : 600
rack travel mm : 9.90
Tolerance mm : +- 0.10
rack travel mm : 10.35
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 1185
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0402646994

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQ300/950PA1032-3
Governor no. : 0421801654

Cust. part No. : 0230744202

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.05
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 235.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.90
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.16
 Tolerance mm : + - 0.10
 Rated speed rpm : 1009
 guide sleeve
 travel mm : 6.52
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 401
 guide sleeve
 travel mm : 4.53
 Tolerance mm : + - 0.10
 Rated speed rpm : 500

guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1170
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

!
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 235.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 97.0
 tolerance degree : + - 4.0
 rack travel mm : 13.00
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1080
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 8.30

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.05
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 14.05
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 14.05
Tolerance mm : + - 0.05

MEASUREMENT

Rated speed rpm : 400

rack travel mm : 10.05
Tolerance mm : + - 0.15

rack travel mm : 11.40
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 230.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 5.0
Spread

Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : + - 12.0

Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 204.5
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 133.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.30
Tolerance mm : + - 0.20
Del. quantity cm³/1000 strokes : 65.0
Tolerance cm³/1000 strokes : + - 15.0
Check tolerance cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + - 0.30
Del. quantity cm³/1000 strokes : 19.0
Tolerance cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000s. : + - 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 03.03.94
Test oil : ISO 4113

Combination No. : 0402646969

Injection pump
Pump designation : PE6P120A320RS7248
EP type number : -10Z
EP type number : 0412626901

Governor
Governor design. : RQV275...1150PA986
Governor no. : 0421813920

Cust. part No. : 1248041/4

Customer-spec. information

Customer : DAF
Motor : RS 200 L
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.35
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 167.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 275
 Rack travel in mm : 5.40
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1335

Rack travel in mm : 10.30
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Del. quantity
 cm³/1000 strokes : 167.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever position degree	:	120.0
tolerance degree	:	+ - 4.0
rack travel mm	:	10.30
Rated speed rpm	:	1185
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00
Rated speed rpm	:	1290
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.70
Tolerance mm	:	+ - 0.70
Rated speed rpm	:	1450

LOW IDLE

control lever position degree	:	83.0
tolerance degree	:	+ - 4.0

Testing:

Rated speed rpm	:	275
rack travel mm	:	4.70
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	175
CRT mm min.	:	> 7.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm	:	1000
rack travel mm	:	11.35
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	1150
rack travel mm	:	11.30
Tolerance mm	:	+ - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
rack travel mm : 11.35
Tolerance mm : + - 0.05

MEASUREMENT

Rated speed rpm : 600
rack travel mm : 10.75
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 9.20
Tolerance mm : + - 0.10

rack travel mm : 9.70
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

BREAKAWAY

Rack travel in mm : 10.30
Rated speed rpm : 1185
Tolerance 1/min : + - 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.04.94
Test oil : ISO 4113

Combination No. : 0402646793A

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1030-8
Governor no. : 0421801673

Cust. part No. : 0230749502

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + - 1.0

Prestroke mm : 5.25
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50
Tolerance mm : + - 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + - 0.30
Check
tolerance °NW : + - 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.35
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 202.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.70
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.58
 Tolerance mm : + - 0.10
 Rated speed rpm : 1103
 guide sleeve travel mm : 6.37
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 394

guide sleeve travel mm : 4.78
 Tolerance mm : + - 0.10
 Rated speed rpm : 480
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1280
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Del. quantity cm³/1000 strokes : 202.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 93.0
 tolerance degree : + - 4.0
 rack travel mm : 11.35
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.35
Tolerance mm : + - 0.05

Rated speed rpm : 550
rack travel mm : 12.35
Tolerance mm : + - 0.05

Rated speed rpm : 400
rack travel mm : 11.50
Tolerance mm : + - 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
rack travel mm : 12.35
Tolerance mm : + - 0.05

MEASUREMENT

Rated speed rpm : 400
rack travel mm : 10.25
Tolerance mm : + - 0.15

Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : + - 0.10

rack travel mm : 11.50
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 197.0

Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.5
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.35
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.10
Tolerance mm : + - 0.20

Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.09.94
Test oil : ISO 4113

Combination No. : 0400874255

Injection pump
Pump designation : PES4A95D410RS2685
EP type number : 0410894996

Governor
Governor design. : RSV400...1000A1C2278
: L
Governor no. : 0420232602

Cust. part No. : 9275740

Customer-spec. information

Customer : LIEBHERR
Motor : D904 T
Power KW : 96.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.75
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

betw. rack trav.
mm : 9.00
Tolerance mm : + 0.50
Difference ° CS : 4.50
Tolerance : + 0.50

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 128.0

Tolerance
 cm³/1000 strokes : + 1.0

 Check tolerance
 cm³/1000S. : + 3.0

 Spred
 Tolerance
 cm³/1000 strokes : 3.5

 Check tolerance
 cm³/1000S. : 8.0

 2nd speed rpm : 400

 Rack travel in mm : 7.20
 Tolerance mm : + 0.10

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

 Rack travel in mm : 0.50
 Tolerance mm : + 0.20

 governor spring
 pre-tension
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 128.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spred
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

RATED SPEED

control lever
 position degree : + 96.0
 tolerance degree : + 4.0

 rack travel mm : 12.45
 Rated speed rpm : 1045
 Tolerance 1/min : + 5

 rack travel mm : 4.00
 Rated speed rpm : 1070
 Tolerance 1/min : + 15

 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1250

 rack travel mm : 4.00
 Rated speed rpm : 1105

LOW IDLE

control lever
 position degree : 69.0
 tolerance degree : + 4.0

 Setting point w/out bumper spring

 Rated speed rpm : 400
 rack travel mm : 6.70

 Testing:

 Rated speed rpm : 400
 rack travel mm : 7.20
 Tolerance mm : + 0.10

 rack travel mm : 2.00
 Rated speed rpm : 570
 Tolerance 1/min : + 30

 Rated speed rpm : 100
 CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 13.45
 Tolerance mm : + 0.05

 Rated speed rpm : 600
 rack travel mm : 13.50
 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.80
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 405
rack travel mm : 12.60
Tolerance mm : + - 0.10

Pressure hPa : 470
rack travel mm : 13.05
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 116.5
Tolerance
cm3/1000 strokes : + - 2.0
Check tolerance
cm3/1000S. : + - 4.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 1045
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + - 0.75

Del. quantity
cm3/1000 strokes : 120.0
Tolerance
cm3/1000 strokes : + - 7.5
Check tolerance
cm3/1000S. : + - 10.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 7.20
Tolerance mm : + - 0.10

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.09.94
Test oil : ISO 4113

Combination No. : 04008742558

Injection pump
Pump designation : PES4A95D410RS2685
EP type number :

Governor
Governor design. : RSV400...1000A1C2278
: L
Governor no. :

Cust. part No. : 9275740

Customer-spec. information
Customer : LIEBHERR
Motor : D904 T
Power KW : 96.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.75
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

betw. rack trav.
mm : 9.00
Tolerance mm : + 0.50
Difference ° CS : 4.50
Tolerance : + 0.50

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 128.0

Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spred
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0
 2nd speed rpm : 400
 Rack travel in mm : 7.20
 Tolerance mm : + 0.10

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 128.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spred
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

RATED SPEED

control lever
 position degree : + 96.0
 tolerance degree : + 4.0
 rack travel mm : 12.45
 Rated speed rpm : 1045
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1070
 Tolerance 1/min : + 15
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1250
 rack travel mm : 4.00
 Rated speed rpm : 1105

LOW IDLE

control lever
 position degree : 69.0
 tolerance degree : + 4.0
 Setting point w/out bumper spring
 Rated speed rpm : 400
 rack travel mm : 6.70
 Testing:
 Rated speed rpm : 400
 rack travel mm : 7.20
 Tolerance mm : + 0.10
 rack travel mm : 2.00
 Rated speed rpm : 570
 Tolerance 1/min : + 30
 Rated speed rpm : 100
 CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 500
 rack travel mm : 13.70
 Tolerance mm : + 0.20
 Rated speed rpm : 1000
 rack travel mm : 13.45
 Tolerance mm : + 0.05
 Rated speed rpm : 600
 rack travel mm : 13.50

Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.80
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 405
rack travel mm : 12.60
Tolerance mm : + - 0.10

Pressure hPa : 470
rack travel mm : 13.05
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 116.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 1045
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + - 0.75

Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + - 7.5
Check tolerance
cm³/1000S. : + - 10.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 7.20
Tolerance mm : + - 0.10

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.94
Test oil : ISO 4113

Combination No. : 0402648983

Injection pump
Pump designation : PE8P120A320LS7839
EP type number : -10
: 0412628855

Governor
Governor design. : RQ300/950PA993-9
Governor no. : 0421801755

Cust. part No. : 0250749202

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance
Check
tolerance °NW : + 0.30
: + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.25
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1005
 guide sleeve
 travel mm : 6.33
 Tolerance mm : \pm 0.10
 Rated speed rpm : 950
 guide sleeve
 travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 481
 guide sleeve
 travel mm : 5.17
 Tolerance mm : \pm 0.10

Rated speed rpm : 580
 guide sleeve
 travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1190
 guide sleeve
 travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 100.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.20
 Rated speed rpm : 995
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1105
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 365
Tolerance 1/min : + 20

Rated speed rpm : 200
CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 15.20
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.10
Tolerance mm : + 0.15

Rated speed rpm : 400
Pressure hPa : 300
rack travel mm : 10.10
Tolerance mm : + 0.20

Pressure hPa : 500

rack travel mm : 11.75
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 500
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 274.5
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 995
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402646994

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQ300/950PA1032-13
Governor no. : 0421801747

Cust. part No. : 0230744202

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 248.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.90
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.16
 Tolerance mm : + - 0.10
 Rated speed rpm : 1009
 guide sleeve
 travel mm : 6.52
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 401
 guide sleeve
 travel mm : 4.53
 Tolerance mm : + - 0.10
 Rated speed rpm : 500

guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1170
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1100
 Del. quantity
 cm³/1000 strokes : 248.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 97.0
 tolerance degree : + - 4.0
 rack travel mm : 13.40
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1080
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 8.30

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 14.40
Tolerance mm : + - 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : + - 0.10

Pressure hPa : 250
rack travel mm : 11.45
Tolerance mm : + - 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
Speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 208.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 998

Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402646997

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQV300...950PA1033
: -5
Governor no. : 0421814008

Cust. part No. : 0230744302

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 248.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.90
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1075
 Rack travel in mm : 13.00
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1100
 Del. quantity
 cm³/1000 strokes : 248.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 120.0
 tolerance degree : + - 4.0
 rack travel mm : 13.40
 Rated speed rpm : 995
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : + - 15
 rack travel mm : 0.70
 Tolerance mm : + - 0.70
 Rated speed rpm : 1200

LOW IDLE

control lever
 position degree : 84.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.90
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 440
 Tolerance 1/min : + - 30
 Rated speed rpm : 200
 CRT mm min. : > 8.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.40
 Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 14.40
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : + - 0.10

Pressure hPa : 250
rack travel mm : 11.45
Tolerance mm : + - 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 208.5
Tolerance
cm3/1000 strokes : + - 1.5
Check tolerance
cm3/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 950

Del. quantity
cm3/1000 strokes : 240.0
Tolerance
cm3/1000 strokes : + - 3.0
Check tolerance
cm3/1000S. : + - 6.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 136.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 4.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 995
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 265.0
Tolerance
cm3/1000 strokes : + - 10.0
Check tolerance
cm3/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + - 0.30
Del. quantity
cm3/1000 strokes : 19.0
Tolerance
cm3/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402648980

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0412628855

Governor
Governor design. : RQV300...950PA797
: -39
Governor no. : 0421814115

Cust. part No. : 0250749102

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.29
 Tolerance mm : \pm 0.20
 Rated speed rpm : 1010
 guide sleeve travel mm : 8.56
 Tolerance mm : \pm 0.15
 Rated speed rpm : 567
 guide sleeve travel mm : 4.66
 Tolerance mm : \pm 0.25
 Rated speed rpm : 617

guide sleeve travel mm : 5.23
 Tolerance mm : \pm 0.25
 Rated speed rpm : 780
 guide sleeve travel mm : 6.31
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1092
 guide sleeve travel mm : 10.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1190
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1030
 Rack travel in mm : 14.20
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 121.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.20
 Rated speed rpm : 995
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1095
Tolerance 1/min : + - 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1250

LOW IDLE

control lever position degree : 82.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 15.20
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.15
Tolerance mm : + - 0.15

Rated speed rpm : 400
Pressure hPa : 300
rack travel mm : 10.00
Tolerance mm : + - 0.20

Pressure hPa : 500
rack travel mm : 11.75
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 500
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 196.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1200
Rated speed rpm : 750
Del. quantity cm³/1000 strokes : 274.5
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0

Aneroid pressure hPa : 1200
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 271.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0

Aneroid pressure hPa : -

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 995
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 22.11.94
Test oil : ISO 4113

Combination No. : 0402648984

Injection pump
Pump designation : PE8P120A320LS7839
EP type number : -10
: 0412528855

Governor
Governor design. : RQ300/1050PA972-12
Governor no. : 0421801759

Cust. part No. : 0250749302

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20

Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.94
 Tolerance mm : + - 0.10
 Rated speed rpm : 1104
 guide sleeve
 travel mm : 6.34
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 414
 guide sleeve
 travel mm : 4.51
 Tolerance mm : + - 0.10

Rated speed rpm : 570
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 98.0
 tolerance degree : + - 4.0
 rack travel mm : 14.20
 Rated speed rpm : 1098
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1195
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 8.20

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 15.20
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 15.20
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.15
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 10.00
Tolerance mm : + - 0.20

Pressure hPa : 500

rack travel mm : 11.75
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 500
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 274.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1098
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 21.11.94
Test oil : ISO 4113

Combination No. : 0403446164

Injection pump
Pump designation : PES6MW100/320RS1016
EP type number : 0413406010

Governor
Governor design. : RQV300...1300MW25-4
Governor no. : 0420083094

Cust. part No. :

Customer-spec. information

Customer : RVI
Motor : MIDR06.02-12
Power KW : 113.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2417413033

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 174.5
Tolerance bar : + 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.50
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.85
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 86.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm ³ /1000S.	: + - 3.0
Spred Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0
Del. quantity cm ³ /1000 strokes	: 16.0
Tolerance cm ³ /1000 strokes	: + - 2.0
Check tolerance cm ³ /1000S.	: + - 4.5
Spred Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.38
Tolerance mm	: + - 0.25
Rated speed rpm	: 1384
guide sleeve travel mm	: 7.99
Tolerance mm	: + - 0.25
Rated speed rpm	: 898
guide sleeve travel mm	: 5.22
Tolerance mm	: + - 0.25
Rated speed rpm	: 345
guide sleeve travel mm	: 1.91
Tolerance mm	: + - 0.25
Rated speed rpm	: 395
guide sleeve travel mm	: 2.43
Tolerance mm	: + - 0.25
Rated speed rpm	: 490
guide sleeve travel mm	: 3.05
Tolerance mm	: + - 0.25
Rated speed rpm	: 1770

guide sleeve travel mm	: 11.50
Tolerance mm	: + - 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1300
Rack travel in mm	: 16.50
Tolerance mm	: + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1300
Aneroid pressure hPa	: 700
Del. quantity cm ³ /1000 strokes	: 86.5
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 3.0
Spred Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 6.0

RATED SPEED

control lever position degree	: 119.0
tolerance degree	: + - 4.0
rack travel mm	: -1.00
Rated speed rpm	: 1375
Tolerance 1/min	: + - 5
rack travel mm	: -6.80
Rated speed rpm	: 1500
Tolerance 1/min	: + - 15
rack travel mm	: -10.30
Tolerance mm	: + - 0.50
Rated speed rpm	: 1650

LOW IDLE

control lever position degree	: 70.0
tolerance degree	: + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : -4.10
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < 3.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 445

TORQUE CONTROL

Rated speed rpm : 1300

Rated speed rpm : 900

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -0.75
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 143
rack travel mm : -0.25
Tolerance mm : + 0.05

Pressure hPa : 115
rack travel mm : -0.65
Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 230
Check
speed 1/min : < 250

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 84.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 57.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1375
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5

Spred
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.11.94
Test oil : ISO 4113

Combination No. : 0402648947B

Injection pump
Pump designation : PE8P120A320LS7859
EP type number : 0412628869

Governor
Governor design. : RQ300/950PA1032-5
Governor no. : 0421801668

Cust. part No. : 0230749602

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Speed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Speed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 996
 guide sleeve travel mm : 6.35
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 445

guide sleeve travel mm : 4.90
 Tolerance mm : + - 0.10
 Rated speed rpm : 570
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1180
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Speed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 97.0
 tolerance degree : + - 4.0
 rack travel mm : 14.00
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1090
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 435
Tolerance 1/min : + 20

Rated speed rpm : 200
CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : + 0.15

Rated speed rpm : 400
Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : + 0.10

Pressure hPa : 550

rack travel mm : 13.60
Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : 1000
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 241.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.10
Tolerance mm : + - 0.20
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 15.11.94
Test oil : ISO 4113

Combination No. : 0402648947C

Injection pump
Pump designation : PE8P120A320LS7859
EP type number : 0412628869

Governor
Governor design. : RQ300/950PA1032-12
Governor no. : 0421801741

Cust. part No. : 0230749602

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 996
 guide sleeve travel mm : 6.35
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 445

guide sleeve travel mm : 4.90
 Tolerance mm : + - 0.10
 Rated speed rpm : 570
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1180
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 97.0
 tolerance degree : + - 4.0
 rack travel mm : 14.00
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1090
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 435
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : + - 0.10

Pressure hPa : 550

rack travel mm : 13.60
Tolerance mm : + - 0.15

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 550
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 205.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1000
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 241.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 5.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.11.94
Test oil : ISO 4113

Combination No. : 04026489538

Injection pump
Pump designation : PE8P120A320LS7859
EP type number : 0412628869

Governor
Governor design. : RQV300...950PA1033
: -10
Governor no. : 0421814040

Cust. part No. : 0230749702

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance
Check
tolerance °NW : + 0.30

tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00

Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.29
 Tolerance mm : + - 0.20
 Rated speed rpm : 1009
 guide sleeve
 travel mm : 8.55
 Tolerance mm : + - 0.15
 Rated speed rpm : 567
 guide sleeve
 travel mm : 4.66
 Tolerance mm : + - 0.25
 Rated speed rpm : 617
 guide sleeve
 travel mm : 5.23
 Tolerance mm : + - 0.25

Rated speed rpm : 780
 guide sleeve
 travel mm : 6.31
 Tolerance mm : + - 0.25
 Rated speed rpm : 1092
 guide sleeve
 travel mm : 10.00
 Tolerance mm : + - 0.25
 Rated speed rpm : 1190
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1035
 Rack travel in mm : 14.00
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : + 122.0
 tolerance degree : + - 4.0
 rack travel mm : 14.00
 Rated speed rpm : 995
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1090
 Tolerance 1/min : + - 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1200

LOW IDLE

control lever position degree : 83.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : > 8.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10

Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 11.00
Tolerance mm : \pm 0.10

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 550
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 205.0
Tolerance cm³/1000 strokes : \pm 1.5
Check tolerance cm³/1000S. : \pm 4.5

Aneroid pressure hPa : 1000
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 241.0
Tolerance cm³/1000 strokes : \pm 2.0
Check tolerance cm³/1000S. : \pm 5.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : \pm 1.0
Check tolerance cm³/1000S. : \pm 4.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 995
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.11.94
Test oil : ISO 4113

Combination No. : 0402648983

Injection pump
Pump designation : PE8P120A320LS7839
: -10
EP type number : 0412628855

Governor
Governor design. : RQ300/950PA
Governor no. : 0421801

Cust. part No. : 0250749202

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20

Tolerance mm	: + - 0.05
Del. quantity cm ³ /1000 strokes	: 289.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 4.0
Spred	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 5.20
Tolerance mm	: + - 0.30
Del. quantity cm ³ /1000 strokes	: 19.0
Tolerance cm ³ /1000 strokes	: + - 3.0
Check tolerance cm ³ /1000S.	: + - 6.0
Spred	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 2.22
Tolerance mm	: + - 0.10
Rated speed rpm	: 1002
guide sleeve	
travel mm	: 6.34
Tolerance mm	: + - 0.10
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.00
Tolerance mm	: + - 0.10
Rated speed rpm	: 366
guide sleeve	
travel mm	: 3.66
Tolerance mm	: + - 0.10

Rated speed rpm	: 500
guide sleeve	
travel mm	: 6.00
Tolerance mm	: + - 0.10
Rated speed rpm	: 1170
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 20.00
Tolerance mm	: + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 289.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 4.0
Spred	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 98.0
tolerance degree	: + - 4.0
rack travel mm	: 14.20
Rated speed rpm	: 995
Tolerance 1/min	: + - 5
rack travel mm	: 4.00
Rated speed rpm	: 1085
Tolerance 1/min	: + - 15
rack travel mm	: 0.75
Tolerance mm	: + - 0.75
Rated speed rpm	: 1250

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 5.70

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 15.20
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.10
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 10.10
Tolerance mm : + 0.20

Pressure hPa : 500

rack travel mm : 11.75
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 500
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 274.5
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 995
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.11.94
Test oil : ISO 4113

Combination No. : 0403476054

Injection pump
Pump designation : PES6MW100/720RS1144
EP type number : 0413406138

Governor
Governor design. : RSV350...1200MW0A316
: -7

Governor no. : 0420085092

Cust. part No. : 0150747302

Customer-spec. information

Customer : MB-NFZ
Motor : OM366A
Power KW : 115.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.05
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 81.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spreed

Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0
Del. quantity cm ³ /1000 strokes	:	10.0
Tolerance cm ³ /1000 strokes	:	+ - 2.0
Check tolerance cm ³ /1000S.	:	+ - 4.5
Spread		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	:	- 3
Rated speed rpm	:	800
Rack travel in mm	:	0.65
Tolerance mm	:	+ - 0.35

governor spring pre-tension		
click setting x	:	3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1200
Aneroid pressure hPa	:	-
Del. quantity cm ³ /1000 strokes	:	81.5
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 3.0
Spread		
Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

RATED SPEED

control lever position degree	:	103.0
Tolerance degree	:	+ - 4.0
rack travel mm	:	1.00
Tolerance mm	:	+ - 0.70
Rated speed rpm	:	1450
rack travel mm	:	4.00
Rated speed rpm	:	1340
rack travel mm	:	11.00
Rated speed rpm	:	1248
Tolerance 1/min	:	+ - 8

LOW IDLE

Testing:

Rated speed rpm	:	350
rack travel mm	:	7.30
Tolerance mm	:	+ - 0.30
rack travel mm	:	2.00
Rated speed rpm	:	475
Tolerance 1/min	:	+ - 30
Rated speed rpm	:	100
CRT mm min.	:	> 19.00

TORQUE CONTROL

Rated speed rpm	:	1200
rack travel mm	:	12.05
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	750
rack travel mm	:	12.55
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	1000
rack travel mm	:	12.20
Tolerance mm	:	+ - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	-
Rated speed rpm	:	750
Del. quantity cm ³ /1000 strokes	:	76.5
Tolerance cm ³ /1000 strokes	:	+ - 1.5

Check tolerance
cm³/1000S. : +
Spred
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : +
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : +
Check tolerance
cm³/1000S. : +
 : 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : +
Check tolerance
cm³/1000S. : +
Spred
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.12.94
Test oil : ISO 4113

Combination No. : 0401849738

Injection pump
Pump designation : PE10P120A320LS3824
: -10
EP type number : 0411829701

Governor
Governor design. : RQV300...1150PA867
Governor no. : 0421813630

Cust. part No. : 0160743402

Customer-spec. information

Customer : MB-NFZ
Motor : OM 423 LA
Power KW : 386.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 140
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 4.05

Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 10- 9- 4- 1- 8
: - 7- 6- 3- 5
: - 2

Phasing : 0-45-72-117-144
: -189-216-261-288

Tolerance
Check
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 10

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.50
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 195.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0
 2nd speed rpm : 300
 Rack travel in mm : 5.10
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 1200
 guide sleeve
 travel mm : 8.70
 Tolerance mm : + - 0.10
 Rated speed rpm : 550
 guide sleeve
 travel mm : 5.10
 Tolerance mm : + - 0.10
 Rated speed rpm : 900
 guide sleeve
 travel mm : 6.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 1250

guide sleeve
 travel mm : 9.80
 Tolerance mm : + - 0.20

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1185

Rack travel in mm : 16.50
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm³/1000 strokes : 195.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0

RATED SPEED

control lever
 position degree : 121.0
 tolerance degree : + - 4.0
 rack travel mm : 11.50
 Rated speed rpm : 1195
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1250
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 85.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.10
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 12.50
 Tolerance mm : + - 0.05

Rated speed rpm : 750
 rack travel mm : 12.50
 Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST**SETTING**

Rated speed rpm : 400
 Pressure hPa : 700
 rack travel mm : 12.50
 Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 10.50
 Tolerance mm : + - 0.10

Rated speed rpm : 400

Pressure hPa : 390
 rack travel mm : 11.00
 Tolerance mm : + - 0.10

Pressure hPa : 450
 rack travel mm : 11.90
 Tolerance mm : + - 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
 speed 1/min : > 80
 Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 450
 Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 167.0
 Tolerance
 cm³/1000 strokes : + - 1.5
 Check tolerance
 cm³/1000S. : + - 4.5

Aneroid pressure
 hPa : 700
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 198.5
 Tolerance
 cm³/1000 strokes : + - 1.5
 Check tolerance
 cm³/1000S. : + - 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 142.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.50
 Rated speed rpm : 1195
 Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.10
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.07.93
Test oil : ISO 4113

Combination No. : 0402646784

Injection pump
Pump designation : PE6P120A320LS7870
EP type number : 0412626903

Governor
Governor design. : RQV350...1050PA1082
Governor no. : 0421814062

Cust. part No. : 0230748502

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 120
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.80
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 350
 Rack travel in mm : 4.70
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
 guide sleeve travel mm : 1.22
 Tolerance mm : + - 0.20
 Rated speed rpm : 1098
 guide sleeve travel mm : 9.45
 Tolerance mm : + - 0.15
 Rated speed rpm : 403
 guide sleeve travel mm : 1.97
 Tolerance mm : + - 0.25
 Rated speed rpm : 453

guide sleeve travel mm : 2.52
 Tolerance mm : + - 0.25
 Rated speed rpm : 760
 guide sleeve travel mm : 4.82
 Tolerance mm : + - 0.25
 Rated speed rpm : 1320
 guide sleeve travel mm : 13.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1210

Rack travel in mm : 10.80
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 104.0
 tolerance degree : + - 4.0
 rack travel mm : 10.80
 Rated speed rpm : 1095
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1160
 Tolerance 1/min : + - 15
 rack travel mm : 0.75

Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : \pm 0.10

Rated speed rpm : 250

CRT mm min. : > 8.40

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.80
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 11.80
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Pressure hPa : 200
rack travel mm : 0.20
Tolerance mm : \pm 0.05

Pressure hPa : 350
rack travel mm : 1.00
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80
Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 800
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.70
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.93
Test oil : ISO 4113

Combination No. : 0402646917X

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQ300/950PA971
Governor no. : 0421801543

Cust. part No. : 0180740402

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50
Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance check
tolerance °NW : + 0.30
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.30
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 241.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.60
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.15
 Tolerance mm : \pm 0.15
 Rated speed rpm : 1009
 guide sleeve travel mm : 6.70
 Tolerance mm : \pm 0.10
 Rated speed rpm : 950
 guide sleeve travel mm : 6.40
 Tolerance mm : \pm 0.10
 Rated speed rpm : 500

guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1160
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 241.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 100.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.00
 Rated speed rpm : 998
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : \pm 15
 rack travel mm : 0.70
 Tolerance mm : \pm 0.70
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 8.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.30
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + - 0.10

Rated speed rpm : 800
rack travel mm : 15.30
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1200
rack travel mm : 15.30
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.25
Tolerance mm : + - 0.15

Rated speed rpm : 550

Pressure hPa : 550
rack travel mm : 12.90
Tolerance mm : + - 0.05

Pressure hPa : 250

rack travel mm : 10.90
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 550
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 190.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1200
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 237.5
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 5.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.93
Test oil : ISO 4113

Combination No. : 0402646930X

Injection pump
Pump designation : PE6P120A320LS7834
EP type number : -10
: 0412626853

Governor
Governer design. : RQ300/1050PA972-7
Governer no. : 0421801583

Cust. part No. : 0200744002

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.30
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 241.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.60
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.70
 Tolerance mm : + - 0.10
 Rated speed rpm : 1109
 guide sleeve travel mm : 6.70
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.40
 Tolerance mm : + - 0.10
 Rated speed rpm : 510

guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1270
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 241.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 100.0
 tolerance degree : + - 4.0
 rack travel mm : 14.00
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1185
 Tolerance 1/min : + - 15
 rack travel mm : 0.70
 Tolerance mm : + - 0.70
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 20

Rated speed rpm : 200
CRT mm min. : > 8.70

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.30
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 15.00
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 15.30
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1200
rack travel mm : 15.30
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.25
Tolerance mm : + 0.15

Rated speed rpm : 550

Pressure hPa : 550
rack travel mm : 12.90
Tolerance mm : + 0.05

Pressure hPa : 250

rack travel mm : 10.90
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 550
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 190.0
Tolerance cm³/1000 strokes : + 1.5
Check tolerance cm³/1000S. : + 4.5

Aneroid pressure hPa : 1200
Rated speed rpm : 1050
Del. quantity cm³/1000 strokes : 235.5
Tolerance cm³/1000 strokes : + 2.0
Check tolerance cm³/1000S. : + 5.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : + 1.0
Check tolerance cm³/1000S. : + 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 1098
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 55.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.04.94
Test oil : ISO 4113

Combination No. : 0402646940X

Injection pump
Pump designation : PE6P120A320LS7836
EP type number : -10
: 0412626854

Governor
Governor design. : RQ300/950PA971-9
Governor no. : 0421801732

Cust. part No. : 0200742202

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 13.20
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 204.5
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.60
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
 Aneroid pressure hPa : 1400
 Del. quantity cm³/1000 strokes : 204.5
 Tolerance cm³/1000 strokes : \pm 1.0

Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 96.0
 tolerance degree : \pm 4.0
 rack travel mm : 12.20
 Rated speed rpm : 998
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1080
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever position degree : 74.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.60
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 390
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 7.40

TORQUE CONTROL

Rated speed rpm : 950
 rack travel mm : 13.20
 Tolerance mm : \pm 0.05
 Rated speed rpm : 800
 rack travel mm : 13.20
 Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 13.20
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1400
rack travel mm : 13.20
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.45
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 350
rack travel mm : 12.00
Tolerance mm : + - 0.05

Pressure hPa : 200
rack travel mm : 11.00
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.09.93
Test oil : ISO 4113

Combination No. : 0402648898X

Injection pump
Pump designation : PE8P120A320LS7838
: -10
EP type number : 0412628854

Governor
Governor design. : RQ300/950PA971-4
Governor no. : 0421801558

Cust. part No. : 0200743402

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.45
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 238.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.10
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1013
 guide sleeve travel mm : 6.80
 Tolerance mm : \pm 0.10
 Rated speed rpm : 950
 guide sleeve travel mm : 6.50
 Tolerance mm : \pm 0.10
 Rated speed rpm : 500

guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1160
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 238.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 102.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.30
 Rated speed rpm : 998
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 7.80

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.45
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 14.30
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 14.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.05
Tolerance mm : + - 0.15

Rated speed rpm : 600

Pressure hPa : 250
rack travel mm : 9.90
Tolerance mm : + - 0.10

Pressure hPa : 550
rack travel mm : 12.60
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 550
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 204.5
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1200
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 232.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 5.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 133.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.10
Tolerance mm : + - 0.20

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.04.94
Test oil : ISO 4113

Combination No. : 0402648900X

Injection pump
Pump designation : PE8P120A320LS7840
: -10
EP type number : 0412628856

Governor
Governor design. : RQ300/1050PA972-4
Governor no. : 0421801560

Cust. part No. : 0190749802

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 212.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.50
Tolerance mm : + - 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : 750

Del. quantity
cm³/1000 strokes : 212.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 101.0
tolerance degree : + - 4.0

rack travel mm : 11.80
Rated speed rpm : 1098
Tolerance 1/min : + - 8

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : + - 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 7.90

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.45
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 12.80
Tolerance mm : + - 0.10

Rated speed rpm	:	900
rack travel mm	:	13.00
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	800
rack travel mm	:	13.45
Tolerance mm	:	+ - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	750
rack travel mm	:	13.45
Tolerance mm	:	+ - 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	11.15
Tolerance mm	:	+ - 0.15

Rated speed rpm	:	400
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Pressure hPa	:	400
rack travel mm	:	12.40
Tolerance mm	:	+ - 0.05

Pressure hPa	:	200
rack travel mm	:	11.60
Tolerance mm	:	+ - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	400
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	158.0
Tolerance cm ³ /1000 strokes	:	+ - 1.5
Check tolerance cm ³ /1000S.	:	+ - 4.5

Aneroid pressure hPa	:	750
Rated speed rpm	:	1050
Del. quantity cm ³ /1000 strokes	:	194.0
Tolerance cm ³ /1000 strokes	:	+ - 2.0

Check tolerance cm ³ /1000S.	:	+ - 5.0
Spread		
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0
Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	137.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spread		
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

BREAKAWAY

Rack travel in mm	:	11.80
Rated speed rpm	:	1098
Tolerance 1/min	:	+ - 8

STARTING FUEL DELIVERY

Rated speed rpm	:	100
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LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	6.50
Tolerance mm	:	+ - 0.30
Del. quantity cm ³ /1000 strokes	:	13.0
Tolerance cm ³ /1000 strokes	:	+ - 3.0
Check tolerance cm ³ /1000S.	:	+ - 6.0
Spread		
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.02.94
Test oil : ISO 4113

Combination No. : 0402648901X

Injection pump
Pump designation : PE8P120A320LS7840
EP type number : -10
: 0412628856

Governor
Governor design. : RQV300...1050PA797
: -21
Governor no. : 0421813894

Cust. part No. : 0190749902

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1125

Rack travel in mm : 16.50
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : 750
 Del. quantity cm³/1000 strokes : 212.0

Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 120.0
 tolerance degree : + - 4.0
 rack travel mm : 11.80
 Rated speed rpm : 1095
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 88.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 6.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 200
 CRT mm min. : > 7.90

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 13.45
 Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 12.80
Tolerance mm : + - 0.10

Rated speed rpm : 900
rack travel mm : 13.00
Tolerance mm : + - 0.10

Rated speed rpm : 800
rack travel mm : 13.45
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 750
rack travel mm : 13.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.15
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.60
Tolerance mm : + - 0.10

Pressure hPa : 400
rack travel mm : 12.40
Tolerance mm : + - 0.05

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 400
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 158.0

Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 750
Rated speed rpm : 1050
Del. quantity cm³/1000 strokes : 194.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 5.0
Spread Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 137.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.80
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 190.0
Tolerance cm³/1000 strokes : + - 10.0
Check tolerance cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.30
Det. quantity cm³/1000 strokes : 13.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spred
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 09.09.93
Test oil : ISO 4113

Combination No. : 0402648906X

Injection pump
Pump designation : PE8P120A320LS7838
: -10
EP type number : 0412628854

Governor
Governor design. : RQ300/1050PA972-6
Governor no. : 0421801569

Cust. part No. : 0200743602

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.45
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 238.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.30
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1109
 guide sleeve travel mm : 6.70
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.40
 Tolerance mm : \pm 0.10
 Rated speed rpm : 490

guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1230
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 238.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 98.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.30
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.10

Rated speed rpm : 200
CRT mm min. : > 7.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.45
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 14.30
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 14.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.05
Tolerance mm : + - 0.15

Rated speed rpm : 600

Pressure hPa : 250
rack travel mm : 9.90
Tolerance mm : + - 0.10

Pressure hPa : 550
rack travel mm : 12.60
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.09.93
Test oil : ISO 4113

Combination No. : 0402648908X

Injection pump
Pump designation : PE8P120A320LS7838
: -10
EP type number : 0412628854

Governor
Governor design. : RQV300...950PA797
: -23
Governor no. : 0421813910

Cust. part No. : 0200743502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.45
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 238.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.25
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1009
 guide sleeve travel mm : 8.55
 Tolerance mm : \pm 0.25
 Rated speed rpm : 780
 guide sleeve travel mm : 6.35
 Tolerance mm : \pm 0.25
 Rated speed rpm : 617

guide sleeve travel mm : 5.25
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1092
 guide sleeve travel mm : 10.05
 Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1020

Rack travel in mm : 16.50
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 238.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 124.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.30
 Rated speed rpm : 995
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1095
 Tolerance 1/min : \pm 15
 rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 86.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : +- 0.10

Rated speed rpm : 200

CRT mm min. : > 7.80

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.45
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 14.30
Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 14.45
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.05
Tolerance mm : +- 0.15

Rated speed rpm : 600

Pressure hPa : 250
rack travel mm : 9.90
Tolerance mm : +- 0.10

Pressure hPa : 550
rack travel mm : 12.65
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 232.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 995

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 230.0
Tolerance cm³/1000 strokes : + 10.0
Check tolerance cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + 0.30
Del. quantity cm³/1000 strokes : 19.0
Tolerance cm³/1000 strokes : + 3.0
Check tolerance cm³/1000S. : + 6.0
Spread
Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.02.94
Test oil : ISO 4113

Combination No. : 0402648909X

Injection pump
Pump designation : PE8P120A320LS7840
: -10
EP type number : 0412628856

Governor
Governor design. : RQ300/950PA971-6
Governor no. : 0421801575

Cust. part No. : 0200748602

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : 750
 Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 98.0
 tolerance degree : + - 4.0
 rack travel mm : 12.45
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1150

LOW IDLE

control lever position degree : 74.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 6.50
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : + - 20
 Rated speed rpm : 200
 CRT mm min. : > 7.60

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 13.45
 Tolerance mm : + - 0.05
 Rated speed rpm : 950
 rack travel mm : 13.45
 Tolerance mm : + - 0.05

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 750
rack travel mm : 13.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.15
Tolerance mm : + - 0.15

Rated speed rpm : 400
Pressure hPa : 200
rack travel mm : 11.60
Tolerance mm : + - 0.10

Pressure hPa : 400
rack travel mm : 12.40
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 750
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 213.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.02.94
Test oil : ISO 4113

Combination No. : 0402648910X

Injection pump
Pump designation : PE8P120A320LS7840
: -10
EP type number : 0412628856

Governor
Governor design. : RQV300...950PA797
: -26
Governor no. : 0421813915

Cust. part No. : 0200748702

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.26
 Tolerance mm : \pm 0.15

Rated speed rpm : 1009
 guide sleeve travel mm : 8.27
 Tolerance mm : \pm 0.20

Rated speed rpm : 575
 guide sleeve travel mm : 4.46
 Tolerance mm : \pm 0.25

Rated speed rpm : 625

guide sleeve travel mm : 5.03
 Tolerance mm : \pm 0.25
 Rated speed rpm : 790
 guide sleeve travel mm : 6.16
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1103
 guide sleeve travel mm : 10.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1200
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1020

Rack travel in mm : 16.50
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : 750
 Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 122.0
 tolerance degree : \pm 4.0

rack travel mm : 12.45
 Rated speed rpm : 995
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : + - 15

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 86.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.45
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 13.45
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 750
rack travel mm : 13.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.15
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.60
Tolerance mm : + - 0.10

Pressure hPa : 400
rack travel mm : 12.40
Tolerance mm : + - 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 750
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 213.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 995
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.08.94
Test oil : ISO 4113

Combination No. : 0402648928B

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886

Governor
Governor design. : RQ300/1050PA1030-9
Governor no. : 0421801717

Cust. part No. : 0230741202

Customer-spec. information

Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.70
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.93
 Tolerance mm : + - 0.10
 Rated speed rpm : 1104
 guide sleeve travel mm : 6.84
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 732

guide sleeve travel mm	: 6.13
Tolerance mm	: + - 0.10
Rated speed rpm	: 414
guide sleeve travel mm	: 4.01
Tolerance mm	: + - 0.10
Rated speed rpm	: 540
guide sleeve travel mm	: 6.00
Tolerance mm	: + - 0.10
Rated speed rpm	: 1270
guide sleeve travel mm	: 11.50
Tolerance mm	: + - 0.50
Rated speed rpm	: 829
guide sleeve travel mm	: 6.38
Tolerance mm	: + - 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 99.0
 tolerance degree : + - 4.0
 rack travel mm : 13.00
 Rated speed rpm : 1098

Tolerance 1/min	: +	8
rack travel mm	:	4.00
Rated speed rpm	:	1190
Tolerance 1/min	: +	15
rack travel mm	:	0.75
Tolerance mm	: +	0.75
Rated speed rpm	:	1350

LOW IDLE

control lever position degree	:	73.0
tolerance degree	: +	4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.50
Tolerance mm	: +	0.10
rack travel mm	:	2.00
Rated speed rpm	:	420
Tolerance 1/min	: +	20
Rated speed rpm	:	200
CRT mm min.	: >	7.20

TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	14.80
Tolerance mm	: +	0.05
Rated speed rpm	:	1050
rack travel mm	:	14.05
Tolerance mm	: +	0.10
Rated speed rpm	:	950
rack travel mm	:	14.20
Tolerance mm	: +	0.10
Rated speed rpm	:	775
rack travel mm	:	14.80
Tolerance mm	: +	0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1200

rack travel mm	:	14.80
Tolerance mm	: +	0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	10.60
Tolerance mm	: +	0.15
Rated speed rpm	:	400
Pressure hPa	:	300
rack travel mm	:	11.90
Tolerance mm	: +	0.15
Pressure hPa	:	450
rack travel mm	:	12.90
Tolerance mm	: +	0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	450
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	166.0
Tolerance cm ³ /1000 strokes	: +	1.5
Check tolerance cm ³ /1000S.	: +	4.5

Aneroid pressure hPa	:	1200
Rated speed rpm	:	1050
Del. quantity cm ³ /1000 strokes	:	212.0
Tolerance cm ³ /1000 strokes	: +	2.0
Check tolerance cm ³ /1000S.	: +	5.0
Spread		
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	: +	12.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	107.0
Tolerance cm ³ /1000 strokes	: +	1.0
Check tolerance cm ³ /1000S.	: +	4.0
Spread		

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1098
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 01.08.94
Test oil : ISO 4113

Combination No. : 0402648928C

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0412628885

Governor
Governor design. : RQ300/1050PA1030-9
Governor no. : 0421801717

Cust. part No. : 0230741202

Customer-spec. information

Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spreed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.70
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spreed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.93
 Tolerance mm : + - 0.10
 Rated speed rpm : 1104
 guide sleeve travel mm : 6.84
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 732

guide sleeve travel mm : 6.13
 Tolerance mm : + - 0.10
 Rated speed rpm : 414
 guide sleeve travel mm : 4.01
 Tolerance mm : + - 0.10
 Rated speed rpm : 540
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1270
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 829
 guide sleeve travel mm : 6.38
 Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spreed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 99.0
 tolerance degree : + - 4.0
 rack travel mm : 13.00
 Rated speed rpm : 1098

Tolerance 1/min	: + -	8
rack travel mm	:	4.00
Rated speed rpm	:	1190
Tolerance 1/min	: + -	15
rack travel mm	:	0.75
Tolerance mm	: + -	0.75
Rated speed rpm	:	1350

LOW IDLE

control lever position degree	:	73.0
tolerance degree	: + -	4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.50
Tolerance mm	: + -	0.10
rack travel mm	:	2.00
Rated speed rpm	:	420
Tolerance 1/min	: + -	20
Rated speed rpm	:	200
CRT mm min.	: >	7.20

TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	14.80
Tolerance mm	: + -	0.05
Rated speed rpm	:	1050
rack travel mm	:	14.05
Tolerance mm	: + -	0.10
Rated speed rpm	:	950
rack travel mm	:	14.20
Tolerance mm	: + -	0.10
Rated speed rpm	:	775
rack travel mm	:	14.80
Tolerance mm	: + -	0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1200

rack travel mm	:	14.80
Tolerance mm	: + -	0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	10.60
Tolerance mm	: + -	0.15
Rated speed rpm	:	400
Pressure hPa	:	300
rack travel mm	:	11.90
Tolerance mm	: + -	0.15
Pressure hPa	:	450
rack travel mm	:	12.90
Tolerance mm	: + -	0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	450
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	166.0
Tolerance cm ³ /1000 strokes	: + -	1.5
Check tolerance cm ³ /1000S.	: + -	4.5

Aneroid pressure hPa	:	1200
Rated speed rpm	:	1050
Del. quantity cm ³ /1000 strokes	:	212.0
Tolerance cm ³ /1000 strokes	: + -	2.0
Check tolerance cm ³ /1000S.	: + -	5.0
Spred		
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	107.0
Tolerance cm ³ /1000 strokes	: + -	1.0
Check tolerance cm ³ /1000S.	: + -	4.0
Spred		

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.08.94
Test oil : ISO 4113

Combination No. : 0402648929B

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886

Governor
Governor design. : RQV300...950PA1033
: -12
Governor no. : 0421814093

Cust. part No. : 0230741402

Customer-spec. information

Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

EOS

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance check
tolerance °NW : + 0.30

tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm	: + - 0.05
Del. quantity cm ³ /1000 strokes	: 239.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 4.0
Spred Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 5.70
Tolerance mm	: + - 0.30
Del. quantity cm ³ /1000 strokes	: 13.0
Tolerance cm ³ /1000 strokes	: + - 3.0
Check tolerance cm ³ /1000S.	: + - 6.0
Spred Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.49
Tolerance mm	: + - 0.25
Rated speed rpm	: 1012
guide sleeve travel mm	: 8.56
Tolerance mm	: + - 0.25
Rated speed rpm	: 1600
guide sleeve travel mm	: 24.06
Tolerance mm	: + - 0.25
Rated speed rpm	: 589
guide sleeve travel mm	: 4.97
Tolerance mm	: + - 0.25

Rated speed rpm	: 639
guide sleeve travel mm	: 5.51
Tolerance mm	: + - 0.25
Rated speed rpm	: 790
guide sleeve travel mm	: 6.48
Tolerance mm	: + - 0.25
Rated speed rpm	: 1100
guide sleeve travel mm	: 10.00
Tolerance mm	: + - 0.25
Rated speed rpm	: 1210
guide sleeve travel mm	: 11.50
Tolerance mm	: + - 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1045
Rack travel in mm	: 13.00
Tolerance mm	: + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 239.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 4.0
Spred Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 122.0
tolerance degree	: + - 4.0
rack travel mm	: 13.00
Rated speed rpm	: 998

Tolerance 1/min : +— 8

rack travel mm : 4.00

Rated speed rpm : 1095

Tolerance 1/min : +— 15

rack travel mm : 0.75

Tolerance mm : +— 0.75

Rated speed rpm : 1350

LOW IDLE

control lever

position degree : 68.0

tolerance degree : +— 4.0

Testing:

Rated speed rpm : 300

rack travel mm : 5.50

Tolerance mm : +— 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550

rack travel mm : 14.80

Tolerance mm : +— 0.05

Rated speed rpm : 950

rack travel mm : 14.05

Tolerance mm : +— 0.10

Rated speed rpm : 900

rack travel mm : 14.10

Tolerance mm : +— 0.10

Rated speed rpm : 875

rack travel mm : 14.25

Tolerance mm : +— 0.10

Rated speed rpm : 800

rack travel mm : 14.75

Tolerance mm : +— 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400

Pressure hPa : 1200

rack travel mm : 14.80

Tolerance mm : +— 0.05

MEASUREMENT

Pressure hPa : —

Rated speed rpm : 400

rack travel mm : 10.60

Tolerance mm : +— 0.20

Rated speed rpm : 400

Pressure hPa : 300

rack travel mm : 11.90

Tolerance mm : +— 0.15

Pressure hPa : 450

rack travel mm : 12.90

Tolerance mm : +— 0.10

START CUT-OUT

Rated speed rpm : > 100

Check

speed 1/min : > 80

Rated speed rpm : < 220

Check

speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 450

Rated speed rpm : 400

Del. quantity

cm³/1000 strokes : 166.0

Tolerance

cm³/1000 strokes : +— 1.5

Check tolerance

cm³/1000S. : +— 4.5

Aneroid pressure

hPa : 1200

Rated speed rpm : 950

Del. quantity

cm³/1000 strokes : 214.0

Tolerance

cm³/1000 strokes : +— 2.0

Check tolerance cm³/1000S. : + 5.0
Spred
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 107.0
Tolerance cm³/1000 strokes : + 1.0
Check tolerance cm³/1000S. : + 4.0
Spred
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.30
Tolerance mm : + 0.25
Del. quantity cm³/1000 strokes : 200.0
Tolerance cm³/1000 strokes : + 20.0
Check tolerance cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : + 0.30
Del. quantity cm³/1000 strokes : 13.0
Tolerance cm³/1000 strokes : + 3.0
Check tolerance cm³/1000S. : + 6.0
Spred

Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.12.94
Test oil : ISO 4113

Combination No. : 0402648933

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886

Governor
Governor design. : RQ300/950PA1031-14
Governor no. : 0421801720

Cust. part No. : 0230742702

Customer-spec. information

Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm	:	14.80
Tolerance mm	:	+ - 0.05
Del. quantity cm ³ /1000 strokes	:	239.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spred Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	9.0
2nd speed rpm	:	300
Rack travel in mm	:	5.70
Tolerance mm	:	+ - 0.30
Del. quantity cm ³ /1000 strokes	:	13.0
Tolerance cm ³ /1000 strokes	:	+ - 3.0
Check tolerance cm ³ /1000S.	:	+ - 6.0
Spred Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.62
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	1009
guide sleeve travel mm	:	6.84
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	950
guide sleeve travel mm	:	6.50
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	739

guide sleeve travel mm	:	6.13
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	443
guide sleeve travel mm	:	4.35
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	550
guide sleeve travel mm	:	6.00
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	1160
guide sleeve travel mm	:	11.50
Tolerance mm	:	+ - 0.50
Rated speed rpm	:	835
guide sleeve travel mm	:	6.38
Tolerance mm	:	+ - 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	:	600
Rack travel in mm	:	20.00
Tolerance mm	:	+ - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	550
Aneroid pressure hPa	:	1200
Del. quantity cm ³ /1000 strokes	:	239.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spred Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	9.0

RATED SPEED

control lever position degree	:	97.0
tolerance degree	:	+ - 4.0
rack travel mm	:	13.00
Rated speed rpm	:	998

Tolerance 1/min	:	+ -	8
rack travel mm	:		4.00
Rated speed rpm	:		1085
Tolerance 1/min	:	+ -	15
rack travel mm	:		0.75
Tolerance mm	:	+ -	0.75
Rated speed rpm	:		1350

LOW IDLE

control lever position degree	:		70.0
tolerance degree	:	+ -	4.0

Testing:

Rated speed rpm	:		300
rack travel mm	:		3.50
Tolerance mm	:	+ -	0.10

rack travel mm	:		2.00
Rated speed rpm	:		350
Tolerance 1/min	:	+ -	20

Rated speed rpm	:		200
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CRT mm/min.	:	>	5.50
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TORQUE CONTROL

Rated speed rpm	:		550
rack travel mm	:		14.80
Tolerance mm	:	+ -	0.05

Rated speed rpm	:		950
rack travel mm	:		14.00
Tolerance mm	:	+ -	0.10

Rated speed rpm	:		900
rack travel mm	:		14.10
Tolerance mm	:	+ -	0.10

Rated speed rpm	:		875
rack travel mm	:		14.25
Tolerance mm	:	+ -	0.10

Rated speed rpm	:		800
rack travel mm	:		14.75
Tolerance mm	:	+ -	0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:		400
Pressure hPa	:		1200
rack travel mm	:		14.80
Tolerance mm	:	+ -	0.05

MEASUREMENT

Pressure hPa	:		-
Rated speed rpm	:		400
rack travel mm	:		10.60
Tolerance mm	:	+ -	0.20

Rated speed rpm	:		400
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Pressure hPa	:		300
rack travel mm	:		11.90
Tolerance mm	:	+ -	0.15

Pressure hPa	:		450
rack travel mm	:		12.90
Tolerance mm	:	+ -	0.10

START CUT-OUT

Rated speed rpm	:	>	100
Check speed 1/min	:	>	80
Rated speed rpm	:	<	220
Check speed 1/min	:	<	240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:		450
Rated speed rpm	:		400
Del. quantity cm ³ /1000 strokes	:		166.0
Tolerance cm ³ /1000 strokes	:	+ -	1.5
Check tolerance cm ³ /1000S.	:	+ -	4.5

Aneroid pressure hPa	:		1200
Rated speed rpm	:		950
Del. quantity cm ³ /1000 strokes	:		214.0
Tolerance cm ³ /1000 strokes	:	+ -	2.0
Check tolerance cm ³ /1000S.	:	+ -	5.0
Spread Tolerance cm ³ /1000 strokes	:		8.0

Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -

Rated speed rpm : 400

Del. quantity
cm³/1000 strokes : 107.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00

Rated speed rpm : 998

Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 210.0

Tolerance
cm³/1000 strokes : + - 15.0

Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300

rack travel mm : 5.70

Tolerance mm : + - 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 18.02.94
Test oil : ISO 4113

Combination No. : 0402648935

Injection pump
Pump designation : PE8P120A320LS7840
: -10
EP type number : 0412628856

Governor
Governor design. : RQV300...950PA1033
: -3
Governor no. : 0421813997

Cust. part No. : 0230743502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.29
 Tolerance mm : + - 0.15
 Rated speed rpm : 1011
 guide sleeve travel mm : 8.59
 Tolerance mm : + - 0.20
 Rated speed rpm : 567
 guide sleeve travel mm : 4.66
 Tolerance mm : + - 0.25
 Rated speed rpm : 617
 guide sleeve travel mm : 5.23
 Tolerance mm : + - 0.25

+-----+
 Rated speed rpm : 780
 guide sleeve travel mm : 6.31
 Tolerance mm : + - 0.25
 +-----+
 Rated speed rpm : 1092
 guide sleeve travel mm : 10.00
 Tolerance mm : + - 0.25
 +-----+
 Rated speed rpm : 1190
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1080
 Rack travel in mm : 12.30
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : 750
 Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 122.0
 tolerance degree : + - 4.0
 rack travel mm : 12.45
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : + - 15

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 86.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.40

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.45
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 13.45
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 750
rack travel mm : 13.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.15
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200

rack travel mm : 11.60
Tolerance mm : + - 0.10
Pressure hPa : 400
rack travel mm : 12.40
Tolerance mm : + - 0.05

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 400
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 158.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 750
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 213.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 137.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.02.94
Test oil : ISO 4113

Combination No. : 0402648937

Injection pump
Pump designation : PE8P120A320LS7840
EP type number : -10
: 0412628856

Governor
Governer design. : RQV300...1050PA1033
: -4
Governor no. : 0421814001

Cust. part No. : 0230743702

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity cm ³ /1000 strokes	:	212.0
Tolerance cm ³ /1000 strokes	:	+/- 1.0
Check tolerance cm ³ /1000S.	:	+/- 4.0
Spread Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	9.0
2nd speed rpm	:	300
Rack travel in mm	:	6.50
Tolerance mm	:	+/- 0.30
Del. quantity cm ³ /1000 strokes	:	13.0
Tolerance cm ³ /1000 strokes	:	+/- 3.0
Check tolerance cm ³ /1000S.	:	+/- 6.0
Spread Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	0.74
Tolerance mm	:	+/- 0.15
Rated speed rpm	:	1110
guide sleeve travel mm	:	8.43
Tolerance mm	:	+/- 0.20
Rated speed rpm	:	575
guide sleeve travel mm	:	4.52
Tolerance mm	:	+/- 0.25
Rated speed rpm	:	625
guide sleeve travel mm	:	5.04
Tolerance mm	:	+/- 0.25

Rated speed rpm	:	830
guide sleeve travel mm	:	6.13
Tolerance mm	:	+/- 0.25
Rated speed rpm	:	1190
guide sleeve travel mm	:	10.00
Tolerance mm	:	+/- 0.25
Rated speed rpm	:	1290
guide sleeve travel mm	:	11.50
Tolerance mm	:	+/- 0.50

GUIDE SLEEVE POSITION

control lever position degree	:	- 1
Rated speed rpm	:	1190
Rack travel in mm	:	11.80
Tolerance mm	:	+/- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure hPa	:	750
Del. quantity cm ³ /1000 strokes	:	212.0
Tolerance cm ³ /1000 strokes	:	+/- 1.0
Check tolerance cm ³ /1000S.	:	+/- 4.0
Spread Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	9.0

RATED SPEED

control lever position degree	:	120.0
tolerance degree	:	+/- 4.0
rack travel mm	:	11.80
Rated speed rpm	:	1095
Tolerance 1/min	:	+/- 5
rack travel mm	:	4.00
Rated speed rpm	:	1160
Tolerance 1/min	:	+/- 15

rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 83.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 6.50
 Tolerance mm : \pm 0.10

Rated speed rpm : 200
 CRT mm min. : > 9.40

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 13.45
 Tolerance mm : \pm 0.05

Rated speed rpm : 1050
 rack travel mm : 12.80
 Tolerance mm : \pm 0.10

Rated speed rpm : 900
 rack travel mm : 13.00
 Tolerance mm : \pm 0.05

Rated speed rpm : 800
 rack travel mm : 13.45
 Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 750
 rack travel mm : 13.45
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 11.15
 Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
 rack travel mm : 11.60
 Tolerance mm : \pm 0.10

Pressure hPa : 400
 rack travel mm : 12.40
 Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
 Check
 speed 1/min : > 80
 Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 400
 Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 158.0
 Tolerance
 cm³/1000 strokes : \pm 1.5
 Check tolerance
 cm³/1000S. : \pm 4.5

Aneroid pressure
 hPa : 750
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 194.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 137.0
 Tolerance
 cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.80
Rated speed rpm : 1095
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.06.94
Test oil : ISO 4113

Combination No. : 0402648938

Injection pump
Pump designation : PE8P120A320LS7840
: -10
EP type number : 0412628856

Governor
Governor design. : RQ300/1050PA1030-15
Governor no. : 0421801736

Cust. part No. : 0230743602

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 212.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.82
 Tolerance mm : + - 0.10
 Rated speed rpm : 1103
 guide sleeve
 travel mm : 6.71
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.35
 Tolerance mm : + - 0.10
 Rated speed rpm : 811
 guide sleeve
 travel mm : 6.09
 Tolerance mm : + - 0.10
 Rated speed rpm : 411

guide sleeve
 travel mm : 4.46
 Tolerance mm : + - 0.10
 Rated speed rpm : 510
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 873
 guide sleeve
 travel mm : 6.26
 Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : 750
 Del. quantity
 cm³/1000 strokes : 212.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 102.0
 tolerance degree : + - 4.0
 rack travel mm : 11.80
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1185
 Tolerance 1/min : + - 15

rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 77.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 6.50
 Tolerance mm : + - 0.10

rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 8.80

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 13.45
 Tolerance mm : + - 0.05

Rated speed rpm : 1050
 rack travel mm : 12.80
 Tolerance mm : + - 0.10

Rated speed rpm : 900
 rack travel mm : 13.00
 Tolerance mm : + - 0.05

Rated speed rpm : 800
 rack travel mm : 13.45
 Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 750
 rack travel mm : 13.45
 Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 11.15
 Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
 rack travel mm : 11.60
 Tolerance mm : + - 0.10

Pressure hPa : 400
 rack travel mm : 12.40
 Tolerance mm : + - 0.10

START CUT-OUT

Rated speed rpm : > 100
 Check speed 1/min : > 80
 Rated speed rpm : < 220
 Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 400
 Rated speed rpm : 400
 Del. quantity cm³/1000 strokes : 158.0
 Tolerance cm³/1000 strokes : + - 1.5
 Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 750
 Rated speed rpm : 1050
 Del. quantity cm³/1000 strokes : 194.0
 Tolerance cm³/1000 strokes : + - 2.0
 Check tolerance cm³/1000S. : + - 5.0

Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
 Rated speed rpm : 500
 Del. quantity cm³/1000 strokes : 137.0
 Tolerance cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : +- 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.80
Rated speed rpm : 1098
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.08.94
Test oil : ISO 4113

Combination No. : 0402648945B

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0412628886

Governor
Governor design. : RQ300/1050PA1030-10
Governor no. : 0421801718

Cust. part No. : 0230747802

Customer-spec. information

Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder assembly : 1688901105

Opening pressure bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 226.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.70
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.79
 Tolerance mm : \pm 0.10

Rated speed rpm : 1104
 guide sleeve travel mm : 6.65
 Tolerance mm : \pm 0.10

Rated speed rpm : 1050
 guide sleeve travel mm : 6.30
 Tolerance mm : \pm 0.10

Rated speed rpm : 792

guide sleeve travel mm : 6.08
 Tolerance mm : \pm 0.10

Rated speed rpm : 414
 guide sleeve travel mm : 3.88
 Tolerance mm : \pm 0.10

Rated speed rpm : 550
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10

Rated speed rpm : 1270
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

Rated speed rpm : 847
 guide sleeve travel mm : 6.23
 Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 226.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 99.0
 tolerance degree : \pm 4.0

rack travel mm : 13.00
 Rated speed rpm : 1098

Tolerance 1/min	: +	8
rack travel mm	:	4.00
Rated speed rpm	:	1190
Tolerance 1/min	: +	15
rack travel mm	:	0.70
Tolerance mm	: +	0.70
Rated speed rpm	:	1300

LOW IDLE

control lever		
position degree	:	72.0
tolerance degree	: +	4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.50
Tolerance mm	: +	0.10
rack travel mm	:	2.00
Rated speed rpm	:	405
Tolerance 1/min	: +	20
Rated speed rpm	:	200
CRT mm min.	: >	7.10

TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	14.40
Tolerance mm	: +	0.05
Rated speed rpm	:	1050
rack travel mm	:	14.05
Tolerance mm	: +	0.10
Rated speed rpm	:	950
rack travel mm	:	14.20
Tolerance mm	: +	0.10
Rated speed rpm	:	800
rack travel mm	:	14.40
Tolerance mm	: +	0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1200

rack travel mm	:	14.40
Tolerance mm	: +	0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	10.60
Tolerance mm	: +	0.15
Rated speed rpm	:	400
Pressure hPa	:	450
rack travel mm	:	12.90
Tolerance mm	: +	0.10
Pressure hPa	:	300
rack travel mm	:	11.90
Tolerance mm	: +	0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	450
Rated speed rpm	:	400
Del. quantity		
cm ³ /1000 strokes	:	166.0
Tolerance		
cm ³ /1000 strokes	: +	1.5
Check tolerance		
cm ³ /1000S.	: +	4.5

Aneroid pressure		
hPa	:	1200
Rated speed rpm	:	1050
Del. quantity		
cm ³ /1000 strokes	:	212.0
Tolerance		
cm ³ /1000 strokes	: +	2.0
Check tolerance		
cm ³ /1000S.	: +	5.0
Spread		
Tolerance		
cm ³ /1000 strokes	:	8.0
Check tolerance		
cm ³ /1000S.	:	12.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	400
Del. quantity		
cm ³ /1000 strokes	:	107.0
Tolerance		
cm ³ /1000 strokes	: +	1.0
Check tolerance		
cm ³ /1000S.	: +	4.0
Spread		

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.01.95
Test oil : ISO 4113

Combination No. : 0400876428

Injection pump
Pump designation : PES6A95D410RS2839
EP type number : 0410886894

Governor
Governor design. : RSV325...1200A0C816L
Governor no. : 0420232614

Cust. part No. : 0 423 1261 KY0150
: -17

Customer-spec. information

Customer : KHD
Motor : BF6L913
Power KW : 109.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.65
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.80
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 72.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spreed

Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 72.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 3.0
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 8.0

RATED SPEED

control lever position degree : 99.0
 tolerance degree : + 4.0

rack travel mm : 10.80
 Rated speed rpm : 1245
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Tolerance ?/min : + 15

rack travel mm : 0.85

Tolerance mm : + 0.55
 rack travel mm : 4.00
 Rated speed rpm : 1340

LOW IDLE

control lever position degree : 66.0
 tolerance degree : + 4.0

Setting point w/cut bumper spring

Rated speed rpm : 325
 rack travel mm : 6.50

Testing:

Rated speed rpm : 325
 rack travel mm : 7.00
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 410
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 11.80
 Tolerance mm : + 0.05

Rated speed rpm : 600
 rack travel mm : 11.85
 Tolerance mm : + 0.05

BREAKAWAY

Rack travel in mm : 10.80
 Rated speed rpm : 1245
 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Tolerance mm : + 0.20
 Del. quantity cm³/1000 strokes : 125.0
 Tolerance cm³/1000 strokes : + 7.5

Check tolerance
cm³/1000s. : + - 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.05.94
Test oil : ISO 4113

Combination No. : 0402648936

Injection pump
Pump designation : PE8P120A320LS7840
: -10
EP type number : 0412628856

Governor
Governor design. : RQ300/950PA1032-14
Governor no. : 0421801749

Cust. part No. : 0230743402

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance check : + 0.30
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 212.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.50
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.18
 Tolerance mm : + - 0.10
 Rated speed rpm : 1004
 guide sleeve
 travel mm : 6.36
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 409
 guide sleeve
 travel mm : 4.79
 Tolerance mm : + - 0.10
 Rated speed rpm : 500

guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : 750
 Del. quantity
 cm³/1000 strokes : 212.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 99.0
 tolerance degree : + - 4.0
 rack travel mm : 12.45
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 8.80

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.45
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 13.45
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 750
rack travel mm : 13.45
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.15
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.60
Tolerance mm : + - 0.10

Pressure hPa : 400
rack travel mm : 12.40
Tolerance mm : + - 0.05

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : > 220

Check speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 158.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 750
Rated speed rpm : 950
Del. quantity cm³/1000 strokes : 213.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 137.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.01.95
Test oil : ISO 4113

Combination No. : 0402046861

Injection pump
Pump designation : PE6P110A320RS3329
EP type number : 0412016743

Governor
Governor design. : RQ325/1300PA1150
Governor no. : 0421801716

Cust. part No. : 1284420/3

Customer-spec. information

Customer : DAF
Motor : NS156M
Power KW : 156.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + - 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + - 0.1

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + - 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + - 1.0

Prestroke mm : 4.85
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + - 0.30
Check
tolerance °NW : + - 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 144.0

Tolerance _____
 cm³/1000 strokes : + - 1.0
 Check tolerance _____
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance _____
 cm³/1000S. : 7.5
 2nd speed rpm : 325
 Rack travel in mm : 5.20
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 26.0
 Tolerance
 cm³/1000 strokes : + - 2.5
 Check tolerance
 cm³/1000S. : + - 5.0
 Spred
 Tolerance
 cm³/1000 strokes : 12.0
 Check tolerance
 cm³/1000S. : 15.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.99
 Tolerance mm : + - 0.10
 Rated speed rpm : 1351
 guide sleeve
 travel mm : 6.37
 Tolerance mm : + - 0.10
 Rated speed rpm : 1300
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 427
 guide sleeve
 travel mm : 3.54
 Tolerance mm : + - 0.10
 Rated speed rpm : 590
 guide sleeve
 travel mm : 6.00

Tolerance mm : + - 0.10
 Rated speed rpm : 1570
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 650
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 144.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 93.0
 tolerance degree : + - 4.0
 rack travel mm : 10.85
 Rated speed rpm : 1345
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1450
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
 position degree : 72.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm	:	325
rack travel mm	:	4.50
Tolerance mm	:	+ - 0.10
rack travel mm	:	2.00
Rated speed rpm	:	415
Rated speed rpm	:	225
CRT mm min.	:	> 5.90

TORQUE CONTROL

Rated speed rpm	:	1000
rack travel mm	:	11.85
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	700
rack travel mm	:	11.85
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	1300
rack travel mm	:	11.85
Tolerance mm	:	+ - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	600
Pressure hPa	:	1000
rack travel mm	:	11.85
Tolerance mm	:	+ - 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	600
rack travel mm	:	7.35
Tolerance mm	:	+ - 0.20

Rated speed rpm : 600

Pressure hPa	:	370
rack travel mm	:	10.75
Tolerance mm	:	+ - 0.05

Pressure hPa	:	200
rack travel mm	:	8.40
Tolerance mm	:	+ - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	1000
Rated speed rpm	:	700
Del. quantity cm ³ /1000 strokes	:	145.0
Tolerance cm ³ /1000 strokes	:	+ - 2.0
Check tolerance cm ³ /1000S.	:	+ - 5.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	600
Del. quantity cm ³ /1000 strokes	:	98.5
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 3.5

BREAKAWAY

Rack travel in mm	:	10.85
Rated speed rpm	:	1345
Tolerance 1/min	:	+ - 5

LOW IDLE

Rated speed rpm	:	325
rack travel mm	:	5.20
Tolerance mm	:	+ - 0.10
Del. quantity cm ³ /1000 strokes	:	26.0
Tolerance cm ³ /1000 strokes	:	+ - 2.5
Check tolerance cm ³ /1000S.	:	+ - 5.0
Spread Tolerance		
cm ³ /1000 strokes	:	12.0
Check tolerance cm ³ /1000S.	:	15.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646752

Injection pump
Pump designation : PE6P120A320LS7836
EP type number : -10
: 0412626854

Governor
Governor design. : RQ300/1050PA1030-26
Governor no. : 0421801775

Cust. part No. : 0260742602

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.61
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1103
 guide sleeve travel mm : 6.37
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 431

guide sleeve travel mm : 4.05
 Tolerance mm : \pm 0.10
 Rated speed rpm : 550
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1280
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 700
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 95.0
 tolerance degree : \pm 4.0
 rack travel mm : 11.40
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 7.40

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : + - 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : + - 0.15

Rated speed rpm : 400
Pressure hPa : 200
rack travel mm : 11.45
Tolerance mm : + - 0.20

Pressure hPa : 300

rack travel mm : 12.00
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 200
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 700
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646753

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0412626854

Governor
Governor design. : RQV300...1050PA1065
: -3
Governor no. : 0421814142

Cust. part No. : 0260742802

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.13
 Tolerance mm : \pm 0.20
 Rated speed rpm : 1108
 guide sleeve travel mm : 9.81
 Tolerance mm : \pm 0.15
 Rated speed rpm : 370
 guide sleeve travel mm : 2.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 420

guide sleeve travel mm : 2.49
 Tolerance mm : \pm 0.25
 Rated speed rpm : 750
 guide sleeve travel mm : 4.87
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1310
 guide sleeve travel mm : 13.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1220
 Rack travel in mm : 11.40
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 700
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 101.0
 tolerance degree : \pm 4.0
 rack travel mm : 11.40
 Rated speed rpm : 1095
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1170
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75

Tolerance mm : + - 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 68.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.70

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : + - 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45

Tolerance mm : + - 0.20
Pressure hPa : 300
rack travel mm : 12.00
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 200
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 119.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 700
Rated speed rpm : 550
Del. quantity cm³/1000 strokes : 169.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646755

Injection pump
Pump designation : PE6P120A320LS7836-2
EP type number : 0412626944

Governor
Governor design. : RQV300...1050PA1033
: -20
Governor no. : 0421814140

Cust. part No. : 0260742702

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40

Tolerance mm : + 0.05
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : + 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.29
 Tolerance mm : + 0.20
 Rated speed rpm : 1107
 guide sleeve
 travel mm : 8.52
 Tolerance mm : + 0.15
 Rated speed rpm : 558
 guide sleeve
 travel mm : 4.53
 Tolerance mm : + 0.25
 Rated speed rpm : 608
 guide sleeve
 travel mm : 5.03
 Tolerance mm : + 0.25

Rated speed rpm : 820
 guide sleeve
 travel mm : 6.13
 Tolerance mm : + 0.25
 Rated speed rpm : 1183
 guide sleeve
 travel mm : 10.00
 Tolerance mm : + 0.25
 Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1150
 Rack travel in mm : 11.40
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 700
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 119.0
 tolerance degree : + 4.0
 rack travel mm : 11.40
 Rated speed rpm : 1095
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1170
 Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 66.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : + - 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45
Tolerance mm : + - 0.20

Pressure hPa : 300
rack travel mm : 12.00
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 200
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 700
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646757

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0412626854

Governor
Governor design. : RQ300/1050PA1030-25
Governor no. : 0421801771

Cust. part No. : 0260743002

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 95.0
 tolerance degree : + - 4.0
 rack travel mm : 12.00
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1185
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 72.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.80
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 415
 Tolerance 1/min : + - 20
 Rated speed rpm : 200
 CRT mm min. : > 7.60

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.00
 Tolerance mm : + - 0.05
 Rated speed rpm : 550
 rack travel mm : 13.00
 Tolerance mm : + - 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 300
rack travel mm : 13.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.40
Tolerance mm : + - 0.20

Pressure hPa : 350
rack travel mm : 12.25
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 150.0
Tolerance
cm3/1000 strokes : + - 1.5
Check tolerance
cm3/1000S. : + - 4.5

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm3/1000 strokes : 189.0
Tolerance
cm3/1000 strokes : + - 3.0

Check tolerance
cm3/1000S. : + - 6.0
Spred
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 127.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 4.0
Spred
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 210.0
Tolerance
cm3/1000 strokes : + - 15.0
Check tolerance
cm3/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity
cm3/1000 strokes : 19.0
Tolerance
cm3/1000 strokes : + - 3.0
Check tolerance
cm3/1000S. : + - 6.0
Spred
Tolerance
cm3/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646758

Injection pump
Pump designation : PE6P120A320LS7834
EP type number : -10
EP type number : 0412626853

Governor
Governor design. : RQ300/1050PA1030-24
Governor no. : 0421801770

Cust. part No. : 0260743302

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.20
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 202.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 7.00
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.78
 Tolerance mm : \pm 0.10

Rated speed rpm : 1104
 guide sleeve travel mm : 6.69
 Tolerance mm : \pm 0.10

Rated speed rpm : 1050
 guide sleeve travel mm : 6.35
 Tolerance mm : \pm 0.10

Rated speed rpm : 818

guide sleeve travel mm : 6.09
 Tolerance mm : \pm 0.10
 Rated speed rpm : 410
 guide sleeve travel mm : 4.39
 Tolerance mm : \pm 0.10
 Rated speed rpm : 510
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1270
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 889
 guide sleeve travel mm : 6.26
 Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 202.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 100.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.20
 Rated speed rpm : 1098

Tolerance 1/min	: + -	8
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	: + -	15
rack travel mm	:	0.75
Tolerance mm	: + -	0.75
Rated speed rpm	:	1300

LOW IDLE

control lever position degree	:	73.0
tolerance degree	: + -	4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.70
Tolerance mm	: + -	0.10
rack travel mm	:	2.00
Rated speed rpm	:	400
Tolerance 1/min	: + -	20
Rated speed rpm	:	200
CRT mm min.	: >	7.90

TORQUE CONTROL

Rated speed rpm	:	1050
rack travel mm	:	14.20
Tolerance mm	: + -	0.05
Rated speed rpm	:	550
rack travel mm	:	14.20
Tolerance mm	: + -	0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	800
rack travel mm	:	14.20
Tolerance mm	: + -	0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	10.50

Tolerance mm	: + -	0.15
Rated speed rpm	:	400
Pressure hPa	:	200
rack travel mm	:	11.65
Tolerance mm	: + -	0.20
Pressure hPa	:	350
rack travel mm	:	13.10
Tolerance mm	: + -	0.20

START CUT-OUT

Rated speed rpm	: >	100
Check speed 1/min	: >	80
Rated speed rpm	: <	220
Check speed 1/min	: <	240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	350
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	150.0
Tolerance cm ³ /1000 strokes	: + -	1.5
Check tolerance cm ³ /1000S.	: + -	4.5

Aneroid pressure hPa	:	800
Rated speed rpm	:	550
Del. quantity cm ³ /1000 strokes	:	197.0
Tolerance cm ³ /1000 strokes	: + -	3.0
Check tolerance cm ³ /1000S.	: + -	6.0
Spread Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	127.0
Tolerance cm ³ /1000 strokes	: + -	1.0
Check tolerance cm ³ /1000S.	: + -	4.0
Spread	:	

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.20
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.01.95
Test oil : ISO 4113

Combination No. : 0402646759

Injection pump
Pump designation : PE6P120A320LS7836

: -10
EP type number : 0412626854

Governor
Governor design. : RQV300...1050PA1033

: -19
Governor no. : 0421814137

Cust. part No. : 0260743102

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance
Check
tolerance °NW : + 0.30
: + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1155

Rack travel in mm : 12.00
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 190.0

G04

Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 120.0
 tolerance degree : + - 4.0
 rack travel mm : 12.00
 Rated speed rpm : 1095
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 66.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.80
 Tolerance mm : + - 0.10
 Rated speed rpm : 200
 CRT mm min. : > 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.00
 Tolerance mm : + - 0.05

Rated speed rpm : 550
 rack travel mm : 13.00
 Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 800
 rack travel mm : 13.00
 Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 10.55
 Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
 rack travel mm : 11.40
 Tolerance mm : + - 0.20

Pressure hPa : 350
 rack travel mm : 12.25
 Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
 Check speed 1/min : > 80
 Rated speed rpm : < 220
 Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 350
 Rated speed rpm : 400
 Del. quantity cm3/1000 strokes : 150.0
 Tolerance cm3/1000 strokes : + - 1.5
 Check tolerance cm3/1000S. : + - 4.5

Aneroid pressure hPa : 800
 Rated speed rpm : 550

Del. quantity cm3/1000 strokes : 189.0
 Tolerance cm3/1000 strokes : + - 3.0
 Check tolerance cm3/1000S. : + - 6.0
 Spread
 Tolerance cm3/1000 strokes : 8.0
 Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -
 Rated speed rpm : 500
 Del. quantity cm3/1000 strokes : 127.0
 Tolerance cm3/1000 strokes : + - 1.0
 Check tolerance cm3/1000S. : + - 4.0
 Spread
 Tolerance cm3/1000 strokes : 8.0
 Check tolerance cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
 Rated speed rpm : 1095
 Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity cm3/1000 strokes : 210.0
 Tolerance cm3/1000 strokes : + - 15.0
 Check tolerance cm3/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 5.80
 Tolerance mm : + - 0.30
 Del. quantity cm3/1000 strokes : 19.0
 Tolerance cm3/1000 strokes : + - 3.0

Check tolerance
cm³/1000s. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646764

Injection pump
Pump designation : PE6P120A320LS7837-2
EP type number : 0412626943

Governor
Governor design. : RQ300/1050PA972-13
Governor no. : 0421801767

Cust. part No. : 0260742402

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.94
 Tolerance mm : + - 0.10
 Rated speed rpm : 1104
 guide sleeve
 travel mm : 6.34
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 441
 guide sleeve
 travel mm : 4.85
 Tolerance mm : + - 0.10
 Rated speed rpm : 570

guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1100
 Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 100.0
 tolerance degree : + - 4.0
 rack travel mm : 14.10
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1200
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 8.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 15.10
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : + 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1098

Tolerance 1/min : +
- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : +
- 20.0
Check tolerance
cm³/1000S. : +
- 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : +
- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +
- 3.0
Check tolerance
cm³/1000S. : +
- 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646765

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0412626855

Governor
Governor design. : RQV300...1050PA797
: -43
Governor no. : 0421814134

Cust. part No. : 0260742502

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 252.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.20
Tolerance mm : + - 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.29
Tolerance mm : + - 0.20

Rated speed rpm : 1108
guide sleeve
travel mm : 8.54
Tolerance mm : + - 0.15

Rated speed rpm : 558
guide sleeve
travel mm : 4.53
Tolerance mm : + - 0.25

Rated speed rpm : 608

guide sleeve
travel mm : 5.03
Tolerance mm : + - 0.25

Rated speed rpm : 820
guide sleeve
travel mm : 6.13
Tolerance mm : + - 0.25

Rated speed rpm : 1183
guide sleeve
travel mm : 10.00
Tolerance mm : + - 0.25

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1140

Rack travel in mm : 14.10
Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 122.0
tolerance degree : + - 4.0

rack travel mm : 14.10
Rated speed rpm : 1095
Tolerance 1/min : + - 5

rack travel mm : 4.00
Rated speed rpm : 1190
Tolerance 1/min : + - 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 85.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 15.10
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : + - 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646766

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0412626855

Governor
Governor design. : RQ300/950PA993-11
Governor no. : 0421801766

Cust. part No. : 0260742302

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. L/h : 110
Tolerance L/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.28
 Tolerance mm : + - 0.10
 Rated speed rpm : 1005
 guide sleeve travel mm : 6.34
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 340

guide sleeve travel mm : 3.46
 Tolerance mm : + - 0.10
 Rated speed rpm : 580
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1190
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1100
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 100.0
 tolerance degree : + - 4.0
 rack travel mm : 14.10
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1105
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.10
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : + - 0.20

Pressure hPa : 550

rack travel mm : 13.85
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646767

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0412626855

Governor
Governor design. : RQV300...950PA797
: -42
Governor no. : 0421814133

Cust. part No. : 0260741502

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10

Tolerance mm : + 0.05
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spred Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : + 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spred Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.29
 Tolerance mm : + 0.20
 Rated speed rpm : 1009
 guide sleeve travel mm : 8.55
 Tolerance mm : + 0.15
 Rated speed rpm : 567
 guide sleeve travel mm : 4.66
 Tolerance mm : + 0.25
 Rated speed rpm : 617
 guide sleeve travel mm : 5.23
 Tolerance mm : + 0.25

Rated speed rpm : 780
 guide sleeve travel mm : 6.31
 Tolerance mm : + 0.25
 Rated speed rpm : 1092
 guide sleeve travel mm : 10.00
 Tolerance mm : + 0.25
 Rated speed rpm : 1190
 guide sleeve travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1040
 Rack travel in mm : 14.10
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1100
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spred Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 122.0
 tolerance degree : + 4.0
 rack travel mm : 14.10
 Rated speed rpm : 995
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1100
 Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + - 0.70
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 85.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.10
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : + - 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 995
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646993A

Injection pump
Pump designation : PE6P120A320LS7852-1
EP type number : 0412626910

Governor
Governer design. : RQ300/1050PA1030-18
Governer no. : 0421801746

Cust. part No. : 0230744502

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30

Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1100
 Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever	
position degree	: 100.0
tolerance degree	: + - 4.0
rack travel mm	: 14.10
Rated speed rpm	: 1098
Tolerance 1/min	: + - 8
rack travel mm	: 4.00
Rated speed rpm	: 1200
Tolerance 1/min	: + - 15
rack travel mm	: 0.75
Tolerance mm	: + - 0.75
Rated speed rpm	: 1300

LOW IDLE

control lever	
position degree	: 74.0
tolerance degree	: + - 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 5.50
Tolerance mm	: + - 0.10
rack travel mm	: 2.00
Rated speed rpm	: 400
Tolerance 1/min	: + - 20
Rated speed rpm	: 200
CRT mm min.	: > 8.50

TORQUE CONTROL

Rated speed rpm	: 550
rack travel mm	: 15.10
Tolerance mm	: + - 0.05
Rated speed rpm	: 1050
rack travel mm	: 15.10
Tolerance mm	: + - 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 10.05
Tolerance mm : + - 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0403276008

Injection pump
Pump designation : PES6MW100/720RS1517
: -2
EP type number : 0413206019

Governor
Governor design. : RSV350...1300MW0A354
Governor no. : 0420085227

Cust. part No. : 0250740502

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Set pneumatic shutoff device to control-rod stop = 0.5...1.5 mm
control-rod travel at 4.5 bar atmospheric pressure.

Test hydr. locking device for starting with 800...1200 hPa air pressure.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.40
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 133.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + - 2.0
 Check tolerance
 cm³/1000S. : + - 4.5
 Spred
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + - 0.20

governor spring
 pre-tension
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 133.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0

Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0

RATED SPEED

control lever
 position degree : 104.0
 tolerance degree : + - 4.0
 rack travel mm : 1.00
 Tolerance mm : + - 0.70
 Rated speed rpm : 1600
 rack travel mm : 4.00
 Rated speed rpm : 1465
 rack travel mm : 13.40
 Rated speed rpm : 1345
 Tolerance 1/min : + - 5

LOW IDLE

Setting point w/out bumper spring
 Rated speed rpm : 350
 rack travel mm : 4.00

Testing:

rack travel mm : 2.00
 Rated speed rpm : 430
 Tolerance 1/min : + - 30
 Rated speed rpm : 100
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1300
 rack travel mm : 14.40
 Tolerance mm : + - 0.05
 Rated speed rpm : 750
 rack travel mm : 14.40
 Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : + - 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 4.30
Tolerance mm : + - 0.10

Pressure hPa : 450
rack travel mm : 1.90
Tolerance mm : + - 0.10

Tolerance
cm3/1000 strokes : + - 5.0
Check tolerance
cm3/1000S. : + - 8.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 132.0
Tolerance
cm3/1000 strokes : + - 2.0
Check tolerance
cm3/1000S. : + - 5.0
Spread
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 46.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 3.0

LOW IDLE

Del. quantity
cm3/1000 strokes : 12.0
Tolerance
cm3/1000 strokes : + - 2.0
Check tolerance
cm3/1000S. : + - 4.5
Spread
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000S. : 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 160.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646760

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQ300/1050PA1030-23
Governor no. : 0421801769

Cust. part No. : 0260743502

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
travel mm : 1.82
 Tolerance mm : + - 0.10

Rated speed rpm : 1104
 guide sleeve
travel mm : 6.68
 Tolerance mm : + - 0.10

Rated speed rpm : 1050
 guide sleeve
travel mm : 6.35
 Tolerance mm : + - 0.10

Rated speed rpm : 832
 guide sleeve
travel mm : 6.09
 Tolerance mm : + - 0.10

+
 Rated speed rpm : 421
 guide sleeve
travel mm : 4.03
 Tolerance mm : + - 0.10
 +
 Rated speed rpm : 550
 guide sleeve
travel mm : 6.00
 Tolerance mm : + - 0.10
 +
 Rated speed rpm : 1270
 guide sleeve
travel mm : 11.50
 Tolerance mm : + - 0.50
 +
 Rated speed rpm : 893
 guide sleeve
travel mm : 6.26
 Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 100.0
 tolerance degree : + - 4.0
 +
 rack travel mm : 13.80
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 +
 rack travel mm : 4.00

Rated speed rpm : 1195
 Tolerance 1/min : \pm 15

 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 405
 Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

Rated speed rpm : 1050
 rack travel mm : 14.80
 Tolerance mm : \pm 0.10

Rated speed rpm : 700
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1000
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400

rack travel mm : 10.80
 Tolerance mm : \pm 0.15

Rated speed rpm : 400

 Pressure hPa : 400
 rack travel mm : 12.90
 Tolerance mm : \pm 0.20

Pressure hPa : 600
 rack travel mm : 14.15
 Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : > 100
 Check
 speed 1/min : > 80
 Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 400
 Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 158.0
 Tolerance
 cm³/1000 strokes : \pm 1.5
 Check tolerance
 cm³/1000S. : \pm 4.5

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 229.0
 Tolerance
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 134.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1098
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646761

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQ300/1050PA1031-19
Governor no. : 0421801768

Cust. part No. : 0260743802

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm	: + - 0.05
Del. quantity cm ³ /1000 strokes	: 230.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 4.0
Spred Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 6.30
Tolerance mm	: + - 0.30
Del. quantity cm ³ /1000 strokes	: 13.0
Tolerance cm ³ /1000 strokes	: + - 3.0
Check tolerance cm ³ /1000S.	: + - 6.0
Spred Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.82
Tolerance mm	: + - 0.10
Rated speed rpm	: 1104
guide sleeve travel mm	: 6.68
Tolerance mm	: + - 0.10
Rated speed rpm	: 1050
guide sleeve travel mm	: 6.35
Tolerance mm	: + - 0.10
Rated speed rpm	: 832
guide sleeve travel mm	: 6.09
Tolerance mm	: + - 0.10

Rated speed rpm	: 421
guide sleeve travel mm	: 4.03
Tolerance mm	: + - 0.10
Rated speed rpm	: 550
guide sleeve travel mm	: 6.00
Tolerance mm	: + - 0.10
Rated speed rpm	: 1270
guide sleeve travel mm	: 11.50
Tolerance mm	: + - 0.50
Rated speed rpm	: 893
guide sleeve travel mm	: 6.26
Tolerance mm	: + - 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
Rack travel in mm	: 20.00
Tolerance mm	: + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure hPa	: 1000
Del. quantity cm ³ /1000 strokes	: 230.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 4.0
Spred Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 99.0
tolerance degree	: + - 4.0
rack travel mm	: 13.80
Rated speed rpm	: 1098
Tolerance 1/min	: + - 8
rack travel mm	: 4.00

Rated speed rpm	:	1195
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.75
Tolerance mm	:	+ - 0.75
Rated speed rpm	:	1300

LOW IDLE

control lever position degree	:	69.0
tolerance degree	:	+ - 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	3.50
Tolerance mm	:	+ - 0.10

rack travel mm	:	2.00
Rated speed rpm	:	350
Tolerance 1/min	:	+ - 20

Rated speed rpm	:	200
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CRT mm min.	:	> 5.30
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TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	14.80
Tolerance mm	:	+ - 0.05

Rated speed rpm	:	1050
rack travel mm	:	14.80
Tolerance mm	:	+ - 0.10

Rated speed rpm	:	700
rack travel mm	:	14.80
Tolerance mm	:	+ - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1000
rack travel mm	:	14.80
Tolerance mm	:	+ - 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400

rack travel mm	:	10.80
Tolerance mm	:	+ - 0.15

Rated speed rpm	:	400
Pressure hPa	:	400
rack travel mm	:	12.90
Tolerance mm	:	+ - 0.20

Pressure hPa	:	600
rack travel mm	:	14.15
Tolerance mm	:	+ - 0.20

START CUT-OUT

Rated speed rpm	:	> 100
Check speed 1/min	:	> 80
Rated speed rpm	:	< 220
Check speed 1/min	:	< 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	400
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	158.0
Tolerance cm ³ /1000 strokes	:	+ - 1.5
Check tolerance cm ³ /1000S.	:	+ - 4.5

Aneroid pressure hPa	:	1000
Rated speed rpm	:	1050
Del. quantity cm ³ /1000 strokes	:	229.0
Tolerance cm ³ /1000 strokes	:	+ - 3.0
Check tolerance cm ³ /1000S.	:	+ - 6.0
Spread	:	
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	134.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646762

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQV300...1050PA1033
: -18
Governor no. : 0421814136

Cust. part No. : 0260743602

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + - 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + - 0.1

Tolerance l/h : + - 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + - 1.5

Lube oil : 1409918004

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + - 1.0

Prestroke mm : 5.55
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50
Tolerance mm : + - 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance
Check
tolerance °NW : + - 0.30

tolerance °NW : + - 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.29
 Tolerance mm : \pm 0.20
 Rated speed rpm : 1108
 guide sleeve travel mm : 8.53
 Tolerance mm : \pm 0.15
 Rated speed rpm : 558
 guide sleeve travel mm : 4.53
 Tolerance mm : \pm 0.25
 Rated speed rpm : 608

guide sleeve travel mm : 5.03
 Tolerance mm : \pm 0.25
 Rated speed rpm : 820
 guide sleeve travel mm : 6.13
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1183
 guide sleeve travel mm : 10.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1280
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1145
 Rack travel in mm : 13.80
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 121.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.80
 Rated speed rpm : 1095
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 66.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : > 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 14.80
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 14.80
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 14.80
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.80
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 12.90
Tolerance mm : \pm 0.20

Pressure hPa : 600
rack travel mm : 14.15
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : +- 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1095
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646763

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQV300...1050PA1065
: -2
Governor no. : 0421814135

Cust. part No. : 0260743702

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + - 1.0

Prestroke mm : 5.55
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50
Tolerance mm : + - 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + - 0.30
Check
tolerance °NW : + - 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm	:	14.80
Tolerance mm	:	+ - 0.05
Del. quantity cm ³ /1000 strokes	:	230.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spred Tolerance cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000S.	:	9.0
2nd speed rpm	:	300
Rack travel in mm	:	6.30
Tolerance mm	:	+ - 0.30
Del. quantity cm ³ /1000 strokes	:	13.0
Tolerance cm ³ /1000 strokes	:	+ - 3.0
Check tolerance cm ³ /1000S.	:	+ - 6.0
Spred Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.13
Tolerance mm	:	+ - 0.25
Rated speed rpm	:	1108
guide sleeve travel mm	:	9.82
Tolerance mm	:	+ - 0.25
Rated speed rpm	:	370
guide sleeve travel mm	:	2.00
Tolerance mm	:	+ - 0.25
Rated speed rpm	:	420

guide sleeve travel mm	:	2.49
Tolerance mm	:	+ - 0.25
Rated speed rpm	:	750
guide sleeve travel mm	:	4.87
Tolerance mm	:	+ - 0.25
Rated speed rpm	:	1310
guide sleeve travel mm	:	13.50
Tolerance mm	:	+ - 0.50

GUIDE SLEEVE POSITION

control lever position degree	:	- 1
Rated speed rpm	:	1200

Rack travel in mm	:	13.80
Tolerance mm	:	+ - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	550
Aneroid pressure hPa	:	1000
Del. quantity cm ³ /1000 strokes	:	230.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spred Tolerance cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000S.	:	9.0

RATED SPEED

control lever position degree	:	104.0
tolerance degree	:	+ - 4.0
rack travel mm	:	13.80
Rated speed rpm	:	1095
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.75

Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 68.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 8.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 14.80
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 14.80
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 14.80
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.80
Tolerance mm : + 0.15

Rated speed rpm : 400
Pressure hPa : 400
rack travel mm : 12.90
Tolerance mm : + 0.20

Pressure hPa : 600
rack travel mm : 14.15
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646768

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0412626855

Governor
Governor design. : RQ300/950PA971-12
Governor no. : 0421801765

Cust. part No. : 0260741302

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

H2O

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.72
 Tolerance mm : + - 0.10
 Rated speed rpm : 1005
 guide sleeve
 travel mm : 6.34
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 429
 guide sleeve
 travel mm : 4.46
 Tolerance mm : + - 0.10
 Rated speed rpm : 580

guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1190
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1100
 Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 100.0
 tolerance degree : + - 4.0
 rack travel mm : 14.10
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1108
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 435
Tolerance 1/min : + - 30

Rated speed rpm : 200
CRT mm min. : > 8.60

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.10
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.10
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : + - 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 190
Check
speed 1/min : > 170
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 998

Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646772A

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1030-21
Governor no. : 0421801758

Cust. part No. : 0250747102

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000

Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 99.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.80
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1200
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 72.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 405
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 6.80

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05

Rated speed rpm : 1050
 rack travel mm : 14.80
 Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1000
 rack travel mm : 14.80
 Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 11.30
 Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 400
 rack travel mm : 13.35
 Tolerance mm : + - 0.20

Pressure hPa : 540
 rack travel mm : 14.20
 Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
 Check speed 1/min : > 80
 Rated speed rpm : < 220
 Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 400
 Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 172.0
 Tolerance
 cm³/1000 strokes : + - 1.5
 Check tolerance
 cm³/1000S. : + - 4.5

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 1050

Del. quantity
 cm³/1000 strokes : 228.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 138.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 210.0
 Tolerance
 cm³/1000 strokes : + - 15.0
 Check tolerance
 cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 6.30
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + - 3.0

Check tolerance : +
cm³/1000S. : 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 20.01.95
Test oil : ISO 4113

Combination No. : 0402646773A

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQV300...1050PA1033
: -15

Governor no. : 0421814120

Cust. part No. : 0250747202

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1135

Rack travel in mm : 13.80
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0

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Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 121.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.80
 Rated speed rpm : 1095
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 66.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : \pm 0.10
 Rated speed rpm : 200
 CRT mm min. : > 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05
 Rated speed rpm : 1050
 rack travel mm : 14.80

Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 14.80
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.30
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 13.35
Tolerance mm : + - 0.20

Pressure hPa : 540
rack travel mm : 14.20
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 400
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 172.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1000
Rated speed rpm : 1050
Del. quantity cm³/1000 strokes : 228.0

Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 138.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 210.0
Tolerance cm³/1000 strokes : + - 15.0
Check tolerance cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.30
Del. quantity cm³/1000 strokes : 13.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646786A

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQV300...1050PA1065
Governor no. : 0421814053

Cust. part No. : 0240747802

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance check
tolerance °NW : + 0.30
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1200

Rack travel in mm : 13.80
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 104.0
 tolerance degree : + - 4.0
 rack travel mm : 13.80
 Rated speed rpm : 1095
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1195
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 68.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : + - 0.10
 Rated speed rpm : 200
 CRT mm min. : > 8.10

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : + - 0.05
 Rated speed rpm : 1050
 rack travel mm : 14.80

Tolerance mm : + - 0.10

Rated speed rpm : 700
rack travel mm : 14.80
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 14.80
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.80
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 12.90
Tolerance mm : + - 0.20

Pressure hPa : 600
rack travel mm : 14.15
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 158.0
Tolerance
cm3/1000 strokes : + - 1.5
Check tolerance
cm3/1000S. : + - 4.5

Aneroid pressure
hPa : 1000

Rated speed rpm : 1050

Del. quantity
cm3/1000 strokes : 229.0
Tolerance
cm3/1000 strokes : + - 3.0
Check tolerance
cm3/1000S. : + - 6.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 134.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 4.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 210.0
Tolerance
cm3/1000 strokes : + - 15.0
Check tolerance
cm3/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.30
Del. quantity
cm3/1000 strokes : 13.0
Tolerance
cm3/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646787A

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1031-12
Governor no. : 0421801681

Cust. part No. : 0240743102

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.60
Tolerance mm : \pm 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 173.0
Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0
Spred
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 93.0
tolerance degree : \pm 4.0

rack travel mm : 11.40
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : \pm 20

Rated speed rpm : 200

CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : \pm 0.05

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.70
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.50
Tolerance mm : + - 0.15

Pressure hPa : 250
rack travel mm : 12.00
Tolerance mm : + - 0.15

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 200
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 700
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 164.0
Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646788A

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1031-11
Governor no. : 0421801680

Cust. part No. : 0240740302

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 190.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : 800
 Del. quantity
 cm³/1000 strokes : 190.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 96.0
 tolerance degree : + - 4.0
 rack travel mm : 12.00
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 69.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.50
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 350
 Tolerance 1/min : + - 20
 Rated speed rpm : 200
 CRT mm min. : > 5.10

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.00
 Tolerance mm : + - 0.05
 Rated speed rpm : 550
 rack travel mm : 13.00
 Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 13.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.40
Tolerance mm : + - 0.20

Pressure hPa : 350
rack travel mm : 12.25
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 350
Rated speed rpm : 400
Del. quantity cm3/1000 strokes : 150.0
Tolerance cm3/1000 strokes : + - 1.5
Check tolerance cm3/1000S. : + - 4.5

Aneroid pressure hPa : 800
Rated speed rpm : 550
Del. quantity cm3/1000 strokes : 189.0
Tolerance cm3/1000 strokes : + - 3.0

Check tolerance cm3/1000S. : + - 6.0
Spread
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 127.0
Tolerance cm3/1000 strokes : + - 1.0
Check tolerance cm3/1000S. : + - 4.0
Spread
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 210.0
Tolerance cm3/1000 strokes : + - 15.0
Check tolerance cm3/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity cm3/1000 strokes : 19.0
Tolerance cm3/1000 strokes : + - 3.0
Check tolerance cm3/1000S. : + - 6.0
Spread
Tolerance cm3/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

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BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646793B

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1030-11
Governor no. : 0421801728

Cust. part No. : 0230749502

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.20
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 202.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 7.00
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 202.0
 Tolerance cm³/1000 strokes : \pm 1.0

Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 100.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.20
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1195
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 73.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.70
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 7.90

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 14.20
 Tolerance mm : \pm 0.05
 Rated speed rpm : 550
 rack travel mm : 14.20
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 14.20
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.50
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.65
Tolerance mm : + - 0.20

Pressure hPa : 350
rack travel mm : 13.10
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 150.0
Tolerance
cm3/1000 strokes : + - 1.5
Check tolerance
cm3/1000S. : + - 4.5

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm3/1000 strokes : 197.0
Tolerance
cm3/1000 strokes : + - 3.0

Check tolerance
cm3/1000S. : + - 6.0
Spred
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 127.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 4.0
Spred
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.20
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 210.0
Tolerance
cm3/1000 strokes : + - 15.0
Check tolerance
cm3/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : + - 0.30
Del. quantity
cm3/1000 strokes : 19.0
Tolerance
cm3/1000 strokes : + - 3.0
Check tolerance
cm3/1000S. : + - 6.0
Spred
Tolerance
cm3/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646794A

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQV300...1050PA1033
: -9
Governor no. : 0421814028

Cust. part No. : 0230749402

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance check
tolerance °NW : + 0.30
: + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1155

Rack travel in mm : 12.00
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : \pm 1.0

Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 120.0
 tolerance degree : \pm 4.0
 rack travel mm : 12.00
 Rated speed rpm : 1095
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 66.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.80
 Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.00
 Tolerance mm : \pm 0.05
 Rated speed rpm : 550
 rack travel mm : 13.00

Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 13.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.40
Tolerance mm : + - 0.20

Pressure hPa : 350
rack travel mm : 12.25
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 350
Rated speed rpm : 400
Del. quantity cm3/1000 strokes : 150.0
Tolerance cm3/1000 strokes : + - 1.5
Check tolerance cm3/1000S. : + - 4.5

Aneroid pressure hPa : 800
Rated speed rpm : 550
Del. quantity cm3/1000 strokes : 189.0

Tolerance cm3/1000 strokes : + - 3.0
Check tolerance cm3/1000S. : + - 6.0
Spred
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 127.0
Tolerance cm3/1000 strokes : + - 1.0
Check tolerance cm3/1000S. : + - 4.0
Spred
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 210.0
Tolerance cm3/1000 strokes : + - 15.0
Check tolerance cm3/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity cm3/1000 strokes : 19.0
Tolerance cm3/1000 strokes : + - 3.0
Check tolerance cm3/1000S. : + - 6.0
Spred

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646795A

Injection pump
Pump designation : PE6P120A320LS7858-1
EP type number : 0412626911

Governor
Governor design. : RQV300...1050PA1033
: -8
Governor no. : 0421814027

Cust. part No. : 0230749002

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance check
tolerance °NW : + 0.30
: + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40

Tolerance mm : + 0.05
Del. quantity cm³/1000 strokes : 173.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0

Spred Tolerance cm³/1000 strokes : 5.0

Check tolerance cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.80
Tolerance mm : + 0.30

Del. quantity cm³/1000 strokes : 19.0

Tolerance cm³/1000 strokes : + 3.0

Check tolerance cm³/1000S. : + 6.0

Spred Tolerance cm³/1000 strokes : 6.0

Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 1
Rated speed rpm : 1150

Rack travel in mm : 11.40
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure hPa : 700
Del. quantity cm³/1000 strokes : 173.0
Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0
Spred Tolerance cm³/1000 strokes : 5.0
Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 119.0
tolerance degree : + 4.0

rack travel mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever position degree : 66.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 7.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : + 0.05

Rated speed rpm : 550
rack travel mm : 12.40

Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45
Tolerance mm : + - 0.20

Pressure hPa : 300
rack travel mm : 12.00
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 200
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 119.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 700
Rated speed rpm : 550
Del. quantity cm³/1000 strokes : 169.0

Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spred Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spred Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1095
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 210.0
Tolerance cm³/1000 strokes : + - 15.0
Check tolerance cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity cm³/1000 strokes : 19.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spred

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646796A

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1030-12
Governor no. : 0421801729

Cust. part No. : 0230749302

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 95.0
 tolerance degree : + - 4.0
 rack travel mm : 12.00
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1185
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 72.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.80
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 415
 Tolerance 1/min : + - 20
 Rated speed rpm : 200
 CRT mm min. : > 7.60

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 13.00
 Tolerance mm : + - 0.05
 Rated speed rpm : 550
 rack travel mm : 13.00
 Tolerance mm : + - 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 13.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.40
Tolerance mm : + - 0.20

Pressure hPa : 350
rack travel mm : 12.25
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 150.0
Tolerance
cm3/1000 strokes : + - 1.5
Check tolerance
cm3/1000S. : + - 4.5

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm3/1000 strokes : 189.0
Tolerance
cm3/1000 strokes : + - 3.0

Check tolerance
cm3/1000S. : + - 6.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 127.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 4.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 210.0
Tolerance
cm3/1000 strokes : + - 15.0
Check tolerance
cm3/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.30
Del. quantity
cm3/1000 strokes : 19.0
Tolerance
cm3/1000 strokes : + - 3.0
Check tolerance
cm3/1000S. : + - 6.0
Spread
Tolerance
cm3/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646797A

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1030-13
Governor no. : 0421801730

Cust. part No. : 0230748902

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 700
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0

Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 95.0
 tolerance degree : \pm 4.0
 rack travel mm : 11.40
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 72.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.80
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 415
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 7.40

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 12.40
 Tolerance mm : \pm 0.05
 Rated speed rpm : 550
 rack travel mm : 12.40
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : \pm 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45
Tolerance mm : \pm 0.20

Pressure hPa : 300
rack travel mm : 12.00
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 200
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 119.0
Tolerance cm³/1000 strokes : \pm 1.5
Check tolerance cm³/1000S. : \pm 4.5

Aneroid pressure hPa : 700
Rated speed rpm : 550
Del. quantity cm³/1000 strokes : 169.0
Tolerance cm³/1000 strokes : \pm 3.0

+ Check tolerance cm³/1000S. : \pm 6.0
+ Spread
+ Tolerance cm³/1000 strokes : 8.0
+ Check tolerance cm³/1000S. : 12.0
+ Aneroid pressure hPa : -
+ Rated speed rpm : 500
+ Del. quantity cm³/1000 strokes : 135.0
+ Tolerance cm³/1000 strokes : \pm 1.0
+ Check tolerance cm³/1000S. : \pm 4.0
+ Spread
+ Tolerance cm³/1000 strokes : 8.0
+ Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1098
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 210.0
Tolerance cm³/1000 strokes : \pm 15.0
Check tolerance cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : \pm 0.30
Del. quantity cm³/1000 strokes : 19.0
Tolerance cm³/1000 strokes : \pm 3.0
Check tolerance cm³/1000S. : \pm 6.0
Spread
Tolerance cm³/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646799A

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQ300/950PA1031-5
Governor no. : 0421801657

Cust. part No. : 0230744402

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1100

Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 100.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.10
 Rated speed rpm : 998
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1105
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 72.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.50
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 340
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 15.10
 Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 15.10
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : + - 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 550
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 205.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1100
Rated speed rpm : 950

Del. quantity cm³/1000 strokes : 240.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread

Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 135.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 235.0
Tolerance cm³/1000 strokes : + - 20.0
Check tolerance cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : + - 0.30
Del. quantity cm³/1000 strokes : 19.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread
Tolerance cm³/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646976A

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1031
Governor no. : 0421801642

Cust. part No. : 0230740902

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred

Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 99.0
 tolerance degree : + - 4.0
 rack travel mm : 13.80
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1195
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 69.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.50
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 350
 Tolerance 1/min : + - 20
 Rated speed rpm : 200
 CRT mm min. : > 5.30

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : + - 0.05
 Rated speed rpm : 1050
 rack travel mm : 14.80
 Tolerance mm : + - 0.10
 Rated speed rpm : 700
 rack travel mm : 14.80

Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 14.80
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.80
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 12.90
Tolerance mm : + 0.20

Pressure hPa : 600
rack travel mm : 14.15
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 400
Rated speed rpm : 400
Del. quantity cm3/1000 strokes : 158.0
Tolerance cm3/1000 strokes : + 1.5
Check tolerance cm3/1000S. : + 4.5

Aneroid pressure hPa : 1000
Rated speed rpm : 1050
Del. quantity cm3/1000 strokes : 229.0

Tolerance cm3/1000 strokes : + 3.0
Check tolerance cm3/1000S. : + 6.0

Spred
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 134.0
Tolerance cm3/1000 strokes : + 1.0
Check tolerance cm3/1000S. : + 4.0
Spred
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1098
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 210.0
Tolerance cm3/1000 strokes : + 15.0
Check tolerance cm3/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + 0.30
Del. quantity cm3/1000 strokes : 13.0
Tolerance cm3/1000 strokes : + 3.0
Check tolerance cm3/1000S. : + 6.0
Spred

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646977A

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1030-14
Governor no. : 0421801731

Cust. part No. : 0230741002

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance check
tolerance °NW : + 0.30

tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread

Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree	:	100.0
Tolerance degree	:	\pm 4.0
rack travel mm	:	13.80
Rated speed rpm	:	1098
Tolerance 1/min	:	\pm 8
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	:	\pm 15
rack travel mm	:	0.75
Tolerance mm	:	\pm 0.75
Rated speed rpm	:	1300

LOW IDLE

control lever position degree	:	74.0
Tolerance degree	:	\pm 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.20
Tolerance mm	:	\pm 0.10
rack travel mm	:	2.00
Rated speed rpm	:	405
Tolerance 1/min	:	\pm 20
Rated speed rpm	:	200
CRT mm min.	:	> 7.00

TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	14.80
Tolerance mm	:	\pm 0.05
Rated speed rpm	:	1050
rack travel mm	:	14.80
Tolerance mm	:	\pm 0.10
Rated speed rpm	:	700
rack travel mm	:	14.80

Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 14.80
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.80
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 12.90
Tolerance mm : + - 0.20

Pressure hPa : 600
rack travel mm : 14.15
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 400
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 158.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1000
Rated speed rpm : 1050
Del. quantity cm³/1000 strokes : 229.0

Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spred Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 134.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spred Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 210.0
Tolerance cm³/1000 strokes : + - 15.0
Check tolerance cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.30
Del. quantity cm³/1000 strokes : 13.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spred

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402646983A

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQV300...1050PA1033
: -2
Governor no. : 0421813994

Cust. part No. : 0230741102

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : +
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : +
 Check tolerance cm³/1000S. : +
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : +
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : +
 Check tolerance cm³/1000S. : +
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1145

Rack travel in mm : 13.80
 Tolerance mm : +
 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : +
 1.0

Check tolerance cm³/1000S. : +
 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 121.0
 tolerance degree : +
 4.0
 rack travel mm : 13.80
 Rated speed rpm : 1095
 Tolerance 1/min : +
 5
 rack travel mm : 4.00
 Rated speed rpm : 1195
 Tolerance 1/min : +
 15
 rack travel mm : 0.75
 Tolerance mm : +
 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 66.0
 tolerance degree : +
 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : +
 0.10

Rated speed rpm : 200
 CRT mm min. : >
 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : +
 0.05
 Rated speed rpm : 1050
 rack travel mm : 14.80

Tolerance mm : + 0.10
 Rated speed rpm : 700
 rack travel mm : 14.80
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1000
 rack travel mm : 14.80
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 10.80
 Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 400
 rack travel mm : 12.90
 Tolerance mm : + 0.20

Pressure hPa : 600
 rack travel mm : 14.15
 Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
 Check
 speed 1/min : > 80
 Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 400
 Rated speed rpm : 400
 Del. quantity
 cm3/1000 strokes : 158.0
 Tolerance
 cm3/1000 strokes : + 1.5
 Check tolerance
 cm3/1000S. : + 4.5

Aneroid pressure
 hPa : 1000

Rated speed rpm : 1050
 Del. quantity
 cm3/1000 strokes : 229.0
 Tolerance
 cm3/1000 strokes : + 3.0
 Check tolerance
 cm3/1000S. : + 6.0
 Spread
 Tolerance
 cm3/1000 strokes : 8.0
 Check tolerance
 cm3/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm3/1000 strokes : 134.0
 Tolerance
 cm3/1000 strokes : + 1.0
 Check tolerance
 cm3/1000S. : + 4.0
 Spread
 Tolerance
 cm3/1000 strokes : 8.0
 Check tolerance
 cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
 Rated speed rpm : 1095
 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm3/1000 strokes : 210.0
 Tolerance
 cm3/1000 strokes : + 15.0
 Check tolerance
 cm3/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 6.30
 Tolerance mm : + 0.30
 Del. quantity
 cm3/1000 strokes : 13.0
 Tolerance
 cm3/1000 strokes : + 3.0

Check tolerance : \pm 6.0
cm³/1000S.
Spread
Tolerance : 6.0
cm³/1000 strokes
Check tolerance : 10.0
cm³/1000S.



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646996A

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQ300/1050PA1031-4
Governor no. : 0421801656

Cust. part No. : 0230744702

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance
Check
tolerance °NW : + 0.30

: + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1100
 Del. quantity cm³/1000 strokes : 252.0

Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 100.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.10
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1200
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 73.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.50
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 8.10

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 15.10
 Tolerance mm : \pm 0.05
 Rated speed rpm : 1050

rack travel mm : 15.10
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 15.10
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.15
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 150
rack travel mm : 10.05
Tolerance mm : + - 0.20

Pressure hPa : 550
rack travel mm : 13.85
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0

Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646997A

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQV300...950PA1033
: -5
Governor no. : 0421814008

Cust. part No. : 0230744302

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : + - 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1040

Rack travel in mm : 14.10
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1100

Del. quantity
 cm³/1000 strokes : 252.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 122.0
 tolerance degree : + - 4.0
 rack travel mm : 14.10
 Rated speed rpm : 995
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1100
 Tolerance 1/min : + - 15
 rack travel mm : 0.70
 Tolerance mm : + - 0.70
 Rated speed rpm : 1200

LOW IDLE

control lever
 position degree : 85.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 200
 CRT mm min. : > 8.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 15.10

Tolerance mm : +-- 0.05
 Rated speed rpm : 950
 rack travel mm : 15.10
 Tolerance mm : +-- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1100
 rack travel mm : 15.10
 Tolerance mm : +-- 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 9.15
 Tolerance mm : +-- 0.20

Rated speed rpm : 400

Pressure hPa : 150
 rack travel mm : 10.05
 Tolerance mm : +-- 0.20

Pressure hPa : 550
 rack travel mm : 13.85
 Tolerance mm : +-- 0.20

START CUT-OUT

Rated speed rpm : > 100
 Check
 speed 1/min : > 80
 Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 550
 Rated speed rpm : 400
 Del. quantity
 cm3/1000 strokes : 205.0
 Tolerance
 cm3/1000 strokes : +-- 1.5
 Check tolerance
 cm3/1000S. : +-- 4.5

Aneroid pressure
 hPa : 1100

Rated speed rpm : 950
 Del. quantity
 cm3/1000 strokes : 240.0
 Tolerance
 cm3/1000 strokes : +-- 3.0
 Check tolerance
 cm3/1000S. : +-- 6.0
 Spread
 Tolerance
 cm3/1000 strokes : 8.0
 Check tolerance
 cm3/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm3/1000 strokes : 135.0
 Tolerance
 cm3/1000 strokes : +-- 1.0
 Check tolerance
 cm3/1000S. : +-- 4.0
 Spread
 Tolerance
 cm3/1000 strokes : 8.0
 Check tolerance
 cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.10
 Rated speed rpm : 995
 Tolerance 1/min : +-- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm3/1000 strokes : 235.0
 Tolerance
 cm3/1000 strokes : +-- 20.0
 Check tolerance
 cm3/1000S. : +-- 24.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 6.20
 Tolerance mm : +-- 0.30
 Del. quantity
 cm3/1000 strokes : 19.0
 Tolerance
 cm3/1000 strokes : +-- 3.0

Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0402646998A

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQV300...1050PA1033
: -6
Governor no. : 0421814009

Cust. part No. : 0230744602

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.10
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.20
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1140

Rack travel in mm : 14.10
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1100
 Del. quantity cm³/1000 strokes : 252.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 122.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.10
 Rated speed rpm : 1095
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever position degree : 85.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.50
 Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : > 8.60

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	15.10
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	1050
rack travel mm	:	15.10
Tolerance mm	:	+ - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1100
rack travel mm	:	15.10
Tolerance mm	:	+ - 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	400
rack travel mm	:	9.15
Tolerance mm	:	+ - 0.20

Rated speed rpm : 400

Pressure hPa	:	150
rack travel mm	:	10.05
Tolerance mm	:	+ - 0.20

Pressure hPa	:	550
rack travel mm	:	13.85
Tolerance mm	:	+ - 0.20

START CUT-OUT

Rated speed rpm	:	> 100
Check speed 1/min	:	> 80
Rated speed rpm	:	< 220
Check speed 1/min	:	< 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	550
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	205.0
Tolerance cm ³ /1000 strokes	:	+ - 1.5
Check tolerance cm ³ /1000S.	:	+ - 4.5

Aneroid pressure hPa	:	1100
Rated speed rpm	:	1050
Del. quantity cm ³ /1000 strokes	:	240.0
Tolerance cm ³ /1000 strokes	:	+ - 3.0
Check tolerance cm ³ /1000S.	:	+ - 6.0
Spread Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	135.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spread Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

BREAKAWAY

Rack travel in mm	:	14.10
Rated speed rpm	:	1095
Tolerance 1/min	:	+ - 5

STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity cm ³ /1000 strokes	:	235.0
Tolerance cm ³ /1000 strokes	:	+ - 20.0
Check tolerance cm ³ /1000S.	:	+ - 24.0

LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	6.20
Tolerance mm	:	+ - 0.30

Def. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402648955B

Injection pump
Pump designation : PE8P120A320LS7859
EP type number : 0412628869

Governor
Governor design. : RQ300/950PA1031-9
Governor no. : 0421801675

Cust. part No. : 0240740502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 1.0

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spreed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.10
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spreed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : \pm 1.0

Check tolerance cm³/1000S. : \pm 4.0
 Spreed
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 97.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.00
 Rated speed rpm : 998
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever position degree : 74.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 6.10
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 8.30

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 15.00
 Tolerance mm : \pm 0.05
 Rated speed rpm : 950
 rack travel mm : 15.00
 Tolerance mm : \pm 0.05

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 10.80
Tolerance mm : + - 0.15

Pressure hPa : 550
rack travel mm : 13.70
Tolerance mm : + - 0.15

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 550
Rated speed rpm : 400
Del. quantity cm3/1000 strokes : 205.0
Tolerance cm3/1000 strokes : + - 1.5
Check tolerance cm3/1000S. : + - 4.5

Aneroid pressure hPa : 1000
Rated speed rpm : 950
Del. quantity cm3/1000 strokes : 242.0
Tolerance cm3/1000 strokes : + - 3.0

Check tolerance cm3/1000S. : + - 6.0
Spred
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 135.0
Tolerance cm3/1000 strokes : + - 1.0
Check tolerance cm3/1000S. : + - 4.0
Spred
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 235.0
Tolerance cm3/1000 strokes : + - 20.0
Check tolerance cm3/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + - 0.30
Del. quantity cm3/1000 strokes : 19.0
Tolerance cm3/1000 strokes : + - 3.0
Check tolerance cm3/1000S. : + - 6.0
Spred
Tolerance cm3/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402648981

Injection pump
Pump designation : PE8P120A320LS7839
EP type number : -10
EP type number : 0412628855

Governor
Governor design. : RQ300/950PA971-10
Governor no. : 0421801754

Cust. part No. : 0250749002

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance
Check
tolerance °NW : + 0.30
: + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.25
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1005
 guide sleeve travel mm : 6.33
 Tolerance mm : \pm 0.10
 Rated speed rpm : 950
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 450
 guide sleeve travel mm : 4.72
 Tolerance mm : \pm 0.10

Rated speed rpm : 580
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1190
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 102.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.20
 Rated speed rpm : 998
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1105
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 76.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 425
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 15.20
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.20
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.15
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 10.00
Tolerance mm : + - 0.20

Pressure hPa : 500

rack travel mm : 11.75
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 500
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 274.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 998
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.01.95
Test oil : ISO 4113

Combination No. : 0402648985

Injection pump
Pump designation : PE8P120A320LS7839
EP type number : -10
EP type number : 0412628855

Governor
Governor design. : RQ300/1050PA993-10
Governor no. : 0421801760

Cust. part No. : 0250749502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance
Check
tolerance °NW : + 0.30

tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.20

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.85
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1104
 guide sleeve travel mm : 6.34
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 271
 guide sleeve travel mm : 1.33
 Tolerance mm : \pm 0.10

Rated speed rpm : 510
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1280
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 289.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 98.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.20
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 Rated speed rpm : 1195
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : + 69.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 5.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.20
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 15.20
Tolerance mm : + - 0.10

Rated speed rpm : 1050
rack travel mm : 15.20
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.20
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.20
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 9.90
Tolerance mm : + - 0.20

Pressure hPa : 500

rack travel mm : 11.75
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check speed 1/min : > 80
Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 500
Rated speed rpm : 400
Del. quantity cm3/1000 strokes : 196.0
Tolerance cm3/1000 strokes : + - 1.5
Check tolerance cm3/1000S. : + - 4.5

Aneroid pressure hPa : 1200
Rated speed rpm : 750
Del. quantity cm3/1000 strokes : 274.5
Tolerance cm3/1000 strokes : + - 3.0
Check tolerance cm3/1000S. : + - 6.0

Aneroid pressure hPa : 1200
Rated speed rpm : 1050
Del. quantity cm3/1000 strokes : 269.0
Tolerance cm3/1000 strokes : + - 3.0
Check tolerance cm3/1000S. : + - 6.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 133.0
Tolerance cm3/1000 strokes : + - 1.0
Check tolerance cm3/1000S. : + - 4.0
Spread
Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1098
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.01.95
Test oil : ISO 4113

Combination No. : 0402648987

Injection pump
Pump designation : PE8P120A320LS7838
: -10
EP type number : 0412628854

Governor
Governor design. : RQV300...950PA1199
: -2
Governor no. : 0421814144

Cust. part No. : 0250746202

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.10
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.29
 Tolerance mm : \pm 0.20

Rated speed rpm : 1012
 guide sleeve travel mm : 8.60
 Tolerance mm : \pm 0.15

Rated speed rpm : 567
 guide sleeve travel mm : 4.66
 Tolerance mm : \pm 0.25

Rated speed rpm : 617

guide sleeve travel mm : 5.23
 Tolerance mm : \pm 0.25
 Rated speed rpm : 780
 guide sleeve travel mm : 6.31
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1092
 guide sleeve travel mm : 10.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1190
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1045

Rack travel in mm : 14.00
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 122.0
 tolerance degree : \pm 4.0
 rack travel mm : 14.00
 Rated speed rpm : 995
 Tolerance 1/min : \pm 5

rack travel mm	:	4.00
Rated speed rpm	:	1105
Tolerance 1/min	:	+ 15
rack travel mm	:	0.75
Tolerance mm	:	+ 0.75
Rated speed rpm	:	1200

LOW IDLE

control lever position degree	:	82.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	4.50
Tolerance mm	:	+ 0.10

Rated speed rpm	:	200
CRT mm min.	:	> 7.00

CONTINUOUS-ACTION CONTROL

Rated speed rpm	:	325
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TORQUE CONTROL

Rated speed rpm	:	550
rack travel mm	:	15.00
Tolerance mm	:	+ 0.05

Rated speed rpm	:	950
rack travel mm	:	15.00
Tolerance mm	:	+ 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	400
Pressure hPa	:	1000
rack travel mm	:	15.00
Tolerance mm	:	+ 0.05

MEASUREMENT

Rated speed rpm	:	400
Pressure hPa	:	-
rack travel mm	:	9.10

Tolerance mm	:	+ - 0.15
Pressure hPa	:	550
rack travel mm	:	13.70
Tolerance mm	:	+ - 0.15

START CUT-OUT

Rated speed rpm	:	> 190
Check speed 1/min	:	> 170
Rated speed rpm	:	< 220
Check speed 1/min	:	< 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	550
Rated speed rpm	:	400
Del. quantity cm ³ /1000 strokes	:	205.0
Tolerance cm ³ /1000 strokes	:	+ - 1.5
Check tolerance cm ³ /1000S.	:	+ - 4.5

Aneroid pressure hPa	:	1000
Rated speed rpm	:	950
Del. quantity cm ³ /1000 strokes	:	242.0
Tolerance cm ³ /1000 strokes	:	+ - 3.0
Check tolerance cm ³ /1000S.	:	+ - 6.0
Spread		
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	135.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spread		
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 995
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402648991A

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0412628885

Governor
Governor design. : RQ300/1050PA1030-22
Governor no. : 0421801763

Cust. part No. : 0250747402

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance
Check
tolerance °NW : + 0.30

tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.00

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.70
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread

Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 98.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.00
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever position degree : 73.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.50
 Tolerance mm : \pm 0.10
 rack travel mm : 2.00
 Rated speed rpm : 415
 Tolerance 1/min : \pm 20
 Rated speed rpm : 200
 CRT mm min. : > 7.10

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.00
 Tolerance mm : \pm 0.05
 Rated speed rpm : 1050
 rack travel mm : 13.70
 Tolerance mm : \pm 0.10
 Rated speed rpm : 950
 rack travel mm : 13.85

Tolerance mm : +⁻ 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.00
Tolerance mm : +⁻ 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.50
Tolerance mm : +⁻ 0.15

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : +⁻ 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : +⁻ 0.15

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 450
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : +⁻ 1.5
Check tolerance
cm³/1000S. : +⁻ 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 217.0

Tolerance
cm³/1000 strokes : +⁻ 2.0
Check tolerance
cm³/1000S. : +⁻ 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : +⁻ 1.0
Check tolerance
cm³/1000S. : +⁻ 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1098
Tolerance 1/min : +⁻ 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : +⁻ 10.0
Check tolerance
cm³/1000S. : +⁻ 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : +⁻ 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +⁻ 3.0
Check tolerance
cm³/1000S. : +⁻ 6.0
Spread

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402648992

Injection pump
Pump designation : PE8P120A320LS7839-1
EP type number : 0412628902

Governor
Governor design. : RQV300...1050PA1033
: -21
Governor no. : 0421814145

Cust. part No. : 0250747502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.00

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.50
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.29
 Tolerance mm : \pm 0.20
 Rated speed rpm : 1110
 guide sleeve
 travel mm : 8.58
 Tolerance mm : \pm 0.15
 Rated speed rpm : 558
 guide sleeve
 travel mm : 4.53
 Tolerance mm : \pm 0.25
 Rated speed rpm : 608
 guide sleeve
 travel mm : 5.03
 Tolerance mm : \pm 0.25

Rated speed rpm : 820
 guide sleeve
 travel mm : 6.13
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1183
 guide sleeve
 travel mm : 10.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1140
 Rack travel in mm : 12.70
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 120.0
 tolerance degree : \pm 4.0
 rack travel mm : 12.30
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 66.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.00
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 13.30
Tolerance mm : + - 0.10

Rated speed rpm : 950
rack travel mm : 13.65
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.20

Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.05
Tolerance mm : + - 0.20

Pressure hPa : 450
rack travel mm : 12.40
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 450
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 217.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1098
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402648993

Injection pump
Pump designation : PE8P120A320LS7838
EP type number : -10
: 0412628854

Governor
Governor design. : RQ300/950PA971-11
Governor no. : 0421801764

Cust. part No. : 0260740202

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm	:	15.00
Tolerance mm	:	+ - 0.05
Del. quantity cm ³ /1000 strokes	:	254.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spred Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	9.0
2nd speed rpm	:	300
Rack travel in mm	:	6.10
Tolerance mm	:	+ - 0.30
Del. quantity cm ³ /1000 strokes	:	19.0
Tolerance cm ³ /1000 strokes	:	+ - 3.0
Check tolerance cm ³ /1000S.	:	+ - 6.0
Spred Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.72
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	1005
guide sleeve travel mm	:	6.34
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	950
guide sleeve travel mm	:	6.00
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	451

guide sleeve travel mm	:	4.76
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	580
guide sleeve travel mm	:	6.00
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	1190
guide sleeve travel mm	:	11.50
Tolerance mm	:	+ - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	:	600
Rack travel in mm	:	20.00
Tolerance mm	:	+ - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	550
Aneroid pressure hPa	:	1000
Del. quantity cm ³ /1000 strokes	:	254.0
Tolerance cm ³ /1000 strokes	:	+ - 1.0
Check tolerance cm ³ /1000S.	:	+ - 4.0
Spred Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	9.0

RATED SPEED

control lever position degree	:	98.0
tolerance degree	:	+ - 4.0
rack travel mm	:	14.00
Rated speed rpm	:	998
Tolerance 1/min	:	+ - 8
rack travel mm	:	4.00
Rated speed rpm	:	1100
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.75
Tolerance mm	:	+ - 0.75
Rated speed rpm	:	1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 430
Tolerance 1/min : + - 30

Rated speed rpm : 200
CRT mm min. : > 9.00

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : + - 0.15

Rated speed rpm : 400
Pressure hPa : 250
rack travel mm : 10.80
Tolerance mm : + - 0.15

Pressure hPa : 550

rack travel mm : 13.70
Tolerance mm : + - 0.15

START CUT-OUT

Rated speed rpm : > 190
Check
speed 1/min : > 170
Rated speed rpm : > 220
Check
speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1000
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 242.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.01.95
Test oil : ISO 4113

Combination No. : 0402666803

Injection pump
Pump designation : PE6P120A320/3LS7883
EP type number : 0412626938

Governor
Governor design. : RSV600...1050P0A592
Governor no. : 0421833458

Cust. part No. : 0220743802

Customer-spec. information

Customer : MB-NFZ
Motor : OM 401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 13.20
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 220.0

Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 600
 Rack travel in mm : 3.80
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + - 0.20

governor spring pre-tension
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1030
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 220.0
 Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 88.0
 tolerance degree : + - 4.0

LOW IDLE

control lever position degree : 71.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 600
 rack travel mm : 3.80
 Tolerance mm : + - 0.10

rack travel mm : 2.00
 Rated speed rpm : 630
 Tolerance 1/min : + - 30

Rated speed rpm : 100
 CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1030
 rack travel mm : 13.20
 Tolerance mm : + - 0.05

Rated speed rpm : 700
 rack travel mm : 13.20
 Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 600
rack travel mm : 3.80
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.02.95
Test oil : ISO 4113

Combination No. : 0400463155

Injection pump
Pump designation : PES3A80D410/3RS1350
EP type number : 0410483023

Governor
Governor design. : RSV325...1175A8C2223
: -1L
Governor no. : 0420232483

Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : F3L912 *
Power KW : 38.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.95
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1175

Rack travel in mm : 10.15
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 56.0

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000S. : + 2.0

Spred
 Tolerance
 cm³/1000 strokes : 2.5

 Check tolerance
 cm³/1000S. : 4.0
 2nd speed rpm : 325
 Rack travel in mm : 6.00
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 11.0
 Tolerance
 cm³/1000 strokes : + - 1.5
 Check tolerance
 cm³/1000S. : + - 3.5
 Spred
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring
 pre-tension
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 56.0
 Tolerance
 cm³/1000 strokes : + - 0.5
 Check tolerance
 cm³/1000S. : + - 2.0
 Spred
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

RATED SPEED

control lever
 position degree : 106.0
 tolerance degree : + - 4.0
 rack travel mm : 9.10
 Rated speed rpm : 1220
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1260
 Tolerance 1/min : + - 15
 rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1425
 rack travel mm : 4.00
 Rated speed rpm : 1265

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : + - 4.0
 Setting point w/out bumper spring
 Rated speed rpm : 325
 rack travel mm : 5.50
 Testing:
 Rated speed rpm : 325
 rack travel mm : 6.00
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 485
 Tolerance 1/min : + - 30
 Rated speed rpm : 100
 CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 0.85
 Rated speed rpm : 1175
 rack travel mm : 10.15
 Tolerance mm : + - 0.05

Rated speed rpm : 500
rack travel mm : 10.95
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 10.50
Tolerance mm : + - 0.10

Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1175
Del. quantity
cm³/1000 strokes : 58.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 3.0

BREAKAWAY

Rack travel in mm : 9.10
Rated speed rpm : 1220
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.80
Tolerance mm : + - 0.15
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : + - 7.5
Check tolerance
cm³/1000S. : + - 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 11.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 3.5
Spread

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 14.02.95
Test oil : ISO 4113

Combination No. : 0402646748

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0412626853

Governor
Governor design. : RQ300/1050PA1030-27
Governor no. : 0421801777

Cust. part No. : 0260744202

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.78
 Tolerance mm : \pm 0.10

Rated speed rpm : 1104
 guide sleeve travel mm : 6.51
 Tolerance mm : \pm 0.10

Rated speed rpm : 1050
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10

Rated speed rpm : 421

guide sleeve travel mm : 4.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 550
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1270
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 99.0
 tolerance degree : \pm 4.0
 rack travel mm : 13.80
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1200
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 6.80

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 14.80
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 14.80
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.30
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 13.35
Tolerance mm : + 0.20

Pressure hPa : 540

rack travel mm : 14.20
Tolerance mm : + 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 228.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.95
Test oil : ISO 4113

Combination No. : 0402646754

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0412626854

Governor
Governer design. : RQ300/1050PA1031-22
Governer no. : 0421801773

Cust. part No. : 0260742902

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.40
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.60
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 1.61
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1103
 guide sleeve travel mm : 6.37
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 431

guide sleeve travel mm : 4.05
 Tolerance mm : \pm 0.10
 Rated speed rpm : 550
 guide sleeve travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1280
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 700
 Del. quantity cm³/1000 strokes : 173.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 93.0
 tolerance degree : \pm 4.0
 rack travel mm : 11.40
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : \pm 15
 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 5.10

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.40
Tolerance mm : + - 0.05

Rated speed rpm : 550
rack travel mm : 12.40
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 12.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 11.05
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 200
rack travel mm : 11.45
Tolerance mm : + - 0.20

Pressure hPa : 300

rack travel mm : 12.00
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 200
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 700
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1098
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.02.95
Test oil : ISO 4113

Combination No. : 0402646996

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQ300/1050PA1031-4
Governor no. : 0421801656

Cust. part No. : 0230744702

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
 Tolerance mm : + - 0.05
 Det. quantity cm³/1000 strokes : 248.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.90
 Tolerance mm : + - 0.30
 Det. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.36
 Tolerance mm : + - 0.10

Rated speed rpm : 1104
 guide sleeve
 travel mm : 6.35
 Tolerance mm : + - 0.10

Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10

Rated speed rpm : 365

guide sleeve
 travel mm : 3.79
 Tolerance mm : + - 0.10
 Rated speed rpm : 490
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1250
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1100
 Det. quantity cm³/1000 strokes : 248.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 99.0
 tolerance degree : + - 4.0

rack travel mm : 13.40
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8

rack travel mm : 4.00
 Rated speed rpm : 1185
 Tolerance 1/min : + - 15

rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 5.70

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 14.40
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.40
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : + - 0.10

Pressure hPa : 250

rack travel mm : 11.45
Tolerance mm : + - 0.10

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 208.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : 1100
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.02.95
Test oil : ISO 4113

Combination No. : 0402648799

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0412628885

Governor
Governor design. : RQ300/1050PA1030-28
Governor no. : 0421801778

Cust. part No. : 0260744102

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance
Check
tolerance °NW : + 0.30

tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.00

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.50
 Tolerance mm : \pm 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.94
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1104
 guide sleeve
 travel mm : 6.84
 Tolerance mm : \pm 0.10

Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.50
 Tolerance mm : \pm 0.10

Rated speed rpm : 732
 guide sleeve
 travel mm : 6.13
 Tolerance mm : \pm 0.10

Rated speed rpm : 426
 guide sleeve
 travel mm : 4.29
 Tolerance mm : \pm 0.10
 Rated speed rpm : 540
 guide sleeve
 travel mm : 6.00
 Tolerance mm : \pm 0.10
 Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 828
 guide sleeve
 travel mm : 6.38
 Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever position degree : 98.0
 tolerance degree : \pm 4.0
 rack travel mm : 12.30
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00

Rated speed rpm : 1180
 Tolerance 1/min : + - 15

 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.50
 Tolerance mm : + - 0.10

 rack travel mm : 2.00
 Rated speed rpm : 415
 Tolerance 1/min : + - 20

 Rated speed rpm : 200

 CRT mm min. : > 7.10

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.00
 Tolerance mm : + - 0.05

 Rated speed rpm : 1050
 rack travel mm : 13.30
 Tolerance mm : + - 0.10

 Rated speed rpm : 850
 rack travel mm : 13.65
 Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1200
 rack travel mm : 14.00
 Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400

rack travel mm : 9.20
 Tolerance mm : + - 0.15

 Rated speed rpm : 400

 Pressure hPa : 300
 rack travel mm : 11.05
 Tolerance mm : + - 0.20

 Pressure hPa : 450
 rack travel mm : 12.40
 Tolerance mm : + - 0.15

START CUT-OUT

Rated speed rpm : > 100
 Check
 speed 1/min : > 80
 Rated speed rpm : > 220
 Check
 speed 1/min : > 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 450
 Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 198.0
 Tolerance
 cm³/1000 strokes : + - 1.5
 Check tolerance
 cm³/1000S. : + - 4.5

Aneroid pressure
 hPa : 1200
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 217.0
 Tolerance
 cm³/1000 strokes : + - 2.0
 Check tolerance
 cm³/1000S. : + - 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 144.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.02.95
Test oil : ISO 4113

Combination No. : 0402648974

Injection pump
Pump designation : PE8P120A320LS7875
EP type number : 0412628881

Governor
Governor design. : RQ250/1150PA1122
Governor no. : 0421801704

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : V2-8TC

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750089

Outside diameter : 8.0

NOS

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.20
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 16.00
Tolerance mm : + 1.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.60
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 208.0

Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spred
 Tolerance cm³/1000 strokes : 7.0
 Check tolerance cm³/1000S. : 10.0
 2nd speed rpm : 300
 Rack travel in mm : 5.80
 Tolerance mm : + 0.20
 Del. quantity cm³/1000 strokes : 18.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spred
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.39
 Tolerance mm : + 0.10
 Rated speed rpm : 1207
 guide sleeve travel mm : 6.36
 Tolerance mm : + 0.10
 Rated speed rpm : 650
 guide sleeve travel mm : 6.00
 Tolerance mm : + 0.10
 Rated speed rpm : 382
 guide sleeve travel mm : 5.26
 Tolerance mm : + 0.10
 Rated speed rpm : 450
 guide sleeve travel mm : 6.00

Tolerance mm : + - 0.10
 Rated speed rpm : 1370
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 208.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 7.0
 Check tolerance cm³/1000S. : 10.0

RATED SPEED

control lever position degree : 34.0
 tolerance degree : + - 4.0
 control lever position degree : 95.0
 tolerance degree : + - 4.0
 rack travel mm : 12.60
 Rated speed rpm : 1202
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1280
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + - 4.0

control lever
position degree : 14.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 375
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 9.20

TORQUE CONTROL

Rated speed rpm : 650
rack travel mm : 13.60
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.60
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.00
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 12.50
Tolerance mm : + - 0.20

Pressure hPa : 250
rack travel mm : 10.00
Tolerance mm : + - 0.05

START CUT-OUT

Rated speed rpm : > 205
Check
speed 1/min : > 185
Rated speed rpm : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 226.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1202
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 203.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.80
Tolerance mm : + - 0.20

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spred
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.02.95
Test oil : ISO 4113

Combination No. : 0402648992

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0412628885

Governor
Governor design. : RQV300...1050PA1033
: -21
Governor no. : 0421814145

Cust. part No. : 0250747502

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.00

Tolerance mm	: + - 0.05
Del. quantity cm ³ /1000 strokes	: 239.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 4.0
Spred	
Tolerance cm ³ /1000 strokes	: 6.0
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 300
Rack travel in mm	: 5.50
Tolerance mm	: + - 0.30
Del. quantity cm ³ /1000 strokes	: 13.0
Tolerance cm ³ /1000 strokes	: + - 3.0
Check tolerance cm ³ /1000S.	: + - 6.0
Spred	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.29
Tolerance mm	: + - 0.20
Rated speed rpm	: 1110
guide sleeve	
travel mm	: 8.58
Tolerance mm	: + - 0.15
Rated speed rpm	: 558
guide sleeve	
travel mm	: 4.53
Tolerance mm	: + - 0.25
Rated speed rpm	: 608
guide sleeve	
travel mm	: 5.03
Tolerance mm	: + - 0.25

Rated speed rpm	: 820
guide sleeve	
travel mm	: 6.13
Tolerance mm	: + - 0.25
Rated speed rpm	: 1183
guide sleeve	
travel mm	: 10.00
Tolerance mm	: + - 0.25
Rated speed rpm	: 1280
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + - 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1140
Rack travel in mm	: 12.70
Tolerance mm	: + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 239.0
Tolerance	
cm ³ /1000 strokes	: + - 1.0
Check tolerance	
cm ³ /1000S.	: + - 4.0
Spred	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 120.0
tolerance degree	: + - 4.0
rack travel mm	: 12.30
Rated speed rpm	: 1098
Tolerance 1/min	: + - 8
rack travel mm	: 4.00
Rated speed rpm	: 1180
Tolerance 1/min	: + - 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1350

LOW IDLE

control lever position degree : 66.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 7.30

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.00
Tolerance mm : + - 0.05

Rated speed rpm : 1050
rack travel mm : 13.30
Tolerance mm : + - 0.10

Rated speed rpm : 950
rack travel mm : 13.65
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.20

Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.05
Tolerance mm : + - 0.20

Pressure hPa : 450
rack travel mm : 12.40
Tolerance mm : + - 0.20

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 450
Rated speed rpm : 400
Del. quantity cm³/1000 strokes : 198.0
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5

Aneroid pressure hPa : 1200
Rated speed rpm : 1050
Del. quantity cm³/1000 strokes : 217.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 5.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 144.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1098
Tolerance 1/min : + - 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.95
Test oil : ISO 4113

Combination No. : 0402648995

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0412628885

Governor
Governor design. : RQV300...950PA1168
: -4
Governor no. : 0421814130

Cust. part No. : 0250749602

Customer-spec. information

Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance
Check
tolerance °NW : + 0.30
: + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 5.70
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spred
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.49
 Tolerance mm : + - 0.25
 Rated speed rpm : 1012
 guide sleeve
 travel mm : 8.56
 Tolerance mm : + - 0.25
 Rated speed rpm : 589
 guide sleeve
 travel mm : 4.97
 Tolerance mm : + - 0.25
 Rated speed rpm : 639
 guide sleeve
 travel mm : 5.51
 Tolerance mm : + - 0.25

Rated speed rpm : 790
 guide sleeve
 travel mm : 6.48
 Tolerance mm : + - 0.25
 Rated speed rpm : 1100
 guide sleeve
 travel mm : 10.00
 Tolerance mm : + - 0.25
 Rated speed rpm : 1210
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1035
 Rack travel in mm : 13.00
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 239.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spred
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : + 123.0
 tolerance degree : + - 4.0
 rack travel mm : 13.00
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1090
 Tolerance 1/min : + - 15

rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever position degree : 64.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.50
 Tolerance mm : \pm 0.10
 Rated speed rpm : 200
 CRT mm min. : > 5.50

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : \pm 0.05
 Rated speed rpm : 950
 rack travel mm : 14.05
 Tolerance mm : \pm 0.10
 Rated speed rpm : 875
 rack travel mm : 14.25
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1200
 rack travel mm : 14.30
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 400
 rack travel mm : 10.60

Tolerance mm : \pm 0.20

Rated speed rpm : 400

Pressure hPa : 450
 rack travel mm : 12.90
 Tolerance mm : \pm 0.10

Pressure hPa : 300
 rack travel mm : 11.90
 Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : > 100
 Check speed 1/min : > 80
 Rated speed rpm : < 220
 Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 450
 Rated speed rpm : 400
 Del. quantity cm³/1000 strokes : 166.0
 Tolerance cm³/1000 strokes : \pm 1.5
 Check tolerance cm³/1000S. : \pm 4.5

Aneroid pressure hPa : 1200
 Rated speed rpm : 950
 Del. quantity cm³/1000 strokes : 214.0
 Tolerance cm³/1000 strokes : \pm 2.0
 Check tolerance cm³/1000S. : \pm 5.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : -
 Rated speed rpm : 400
 Del. quantity cm³/1000 strokes : 107.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 998
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.30
Tolerance mm : + 0.25
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.95
Test oil : ISO 4113

Combination No. : 0402648997

Injection pump
Pump designation : PE8P120A320LS7838
: -10
EP type number : 0412628854

Governor
Governor design. : RQ300/950PA993-12
Governor no. : 0421801776

Cust. part No. : 0260740402

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5
Tolerance bar : + 1.0

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 2nd speed rpm : 300
 Rack travel in mm : 6.10
 Tolerance mm : + - 0.30
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

guide sleeve travel mm : 4.91
 Tolerance mm : + - 0.10
 Rated speed rpm : 500
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1170
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 254.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve travel mm : 2.14
 Tolerance mm : + - 0.10
 Rated speed rpm : 1005
 guide sleeve travel mm : 6.35
 Tolerance mm : + - 0.10
 Rated speed rpm : 950
 guide sleeve travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 414

RATED SPEED

control lever position degree : 99.0
 tolerance degree : + - 4.0
 rack travel mm : 14.00
 Rated speed rpm : 998
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1090
 Tolerance 1/min : + - 15
 rack travel mm : 0.75
 Tolerance mm : + - 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.70
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 355
Tolerance 1/min : + - 20

Rated speed rpm : 200
CRT mm min. : > 5.70

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST**SETTING**

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 10.80
Tolerance mm : + - 0.20

Pressure hPa : 550

rack travel mm : 13.70
Tolerance mm : + - 0.15

START CUT-OUT

Rated speed rpm : > 100
Check
speed 1/min : > 80
Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 205.0
Tolerance
cm3/1000 strokes : + - 1.5
Check tolerance
cm3/1000S. : + - 4.5

Aneroid pressure
hPa : 1000
Rated speed rpm : 950
Del. quantity
cm3/1000 strokes : 242.0
Tolerance
cm3/1000 strokes : + - 3.0
Check tolerance
cm3/1000S. : + - 6.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 135.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 4.0
Spread
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 998
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.02.95
Test oil : ISO 4113

Combination No. : 0402736810

Injection pump
Pump designation : PES6P110A120RS7213
EP type number : 0412716804

Governor
Governor design. : RQV400...1250PA964
: -2K
Governor no. : 0421815254

Cust. part No. : 3921777

Customer-spec. information

Customer : CDC
Motor : 6BTA-A
Power KW : 141.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : + 5.0

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.40
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1
Tolerance : + 0.10
Check
tolerance °NW : + 0.23

BASIC SETTINGRated speed rpm : 1250

Rack travel in mm : 14.85
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 163.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spred
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 36.0

Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 5.0

Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

**(B) SETTING OF INJECTION PUMP
WITH GOVERNOR**

GUIDE SLEEVE POSITIONRated speed rpm : 1450

Rack travel in mm : 13.80
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOPRated speed rpm : 1250
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 163.0

Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spred
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEEDcontrol lever
position degree : 63.0
tolerance degree : \pm 4.0

control lever
position degree : 119.0
tolerance degree : \pm 4.0

rack travel mm : 13.80
Rated speed rpm : 1300
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1600

LOW IDLEcontrol lever
position degree : 71.0
tolerance degree : \pm 4.0

control lever
position degree : 15.0
tolerance degree : \pm 4.0

Testing:Rated speed rpm : 400
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 275

CRT mm min. : > 7.20

CONTINUOUS-ACTION CONTROL

Rated speed rpm : 423

TORQUE CONTROL

Rated speed rpm	:	1250
rack travel mm	:	14.85
Tolerance mm	:	+/- 0.05
Rated speed rpm	:	800
rack travel mm	:	13.10
Tolerance mm	:	+/- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	1250
Pressure hPa	:	1200
rack travel mm	:	14.85
Tolerance mm	:	+/- 0.05

MEASUREMENT

Rated speed rpm	:	1250
Pressure hPa	:	690
rack travel mm	:	13.40
Tolerance mm	:	+/- 0.20
Pressure hPa	:	365
rack travel mm	:	10.25
Tolerance mm	:	+/- 0.05

START CUT-OUT

Rated speed rpm	:	> 100
Check speed 1/min	:	> 80
Rated speed rpm	:	< 290
Check speed 1/min	:	< 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	1200
Rated speed rpm	:	800
Del. quantity cm ³ /1000 strokes	:	161.0
Tolerance cm ³ /1000 strokes	:	+/- 3.0
Check tolerance cm ³ /1000S.	:	+/- 6.0
Spread	:	

Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	+/- 12.0
Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	97.5
Tolerance cm ³ /1000 strokes	:	+/- 2.0
Check tolerance cm ³ /1000S.	:	+/- 4.0

BREAKAWAY

Rack travel in mm	:	13.80
Rated speed rpm	:	1300
Tolerance 1/min	:	+/- 5

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	12.50
Tolerance mm	:	+/- 0.50
Del. quantity cm ³ /1000 strokes	:	155.0
Tolerance cm ³ /1000 strokes	:	+/- 20.0
Check tolerance cm ³ /1000S.	:	+/- 25.0

LOW IDLE

Del. quantity cm ³ /1000 strokes	:	36.0
Tolerance cm ³ /1000 strokes	:	+/- 3.0
Check tolerance cm ³ /1000S.	:	+/- 5.0
Spread	:	
Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.02.95
Test oil : ISO 4113

Combination No. : 0403244044

Injection pump
Pump designation : PES4MW100/320RS1521
EP type number : 0413204020

Governor
Governor design. : RQV400...1200MW147
Governor no. : 0420083320

Cust. part No. : 51.11103-7412

Customer-spec. information

Customer : SNF
Motor : D0824 LFL04
Power KW : 81.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750008

Outside diameter : 8.0

x inside diameter : 2.0

x length mm : 600

REMARKS

Set pneumatic shutoff device to control-rod stop = 0.5...1.5 mm control-rod travel at 4.5 bar atmospheric pressure.

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.95
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 132.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5
 2nd speed rpm : 400
 Rack travel in mm : 4.00
 Tolerance mm : + - 0.20
 Del. quantity
 cm³/1000 strokes : 15.0
 Tolerance
 cm³/1000 strokes : + - 2.0
 Check tolerance
 cm³/1000S. : + - 4.5
 Spred
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
 guide sleeve
 travel mm : 1.55
 Tolerance mm : + - 0.25
 Rated speed rpm : 1253
 guide sleeve
 travel mm : 9.86
 Tolerance mm : + - 0.25
 Rated speed rpm : 848
 guide sleeve
 travel mm : 5.69
 Tolerance mm : + - 0.25
 Rated speed rpm : 448
 guide sleeve
 travel mm : 2.05
 Tolerance mm : + - 0.25
 Rated speed rpm : 498

guide sleeve
 travel mm : 2.59
 Tolerance mm : + - 0.25
 Rated speed rpm : 550
 guide sleeve
 travel mm : 3.30
 Tolerance mm : + - 0.25
 Rated speed rpm : 1500
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1350
 Rack travel in mm : 10.00
 Tolerance mm : + - 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 800
 Del. quantity
 cm³/1000 strokes : 132.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 120.0
 tolerance degree : + - 4.0
 rack travel mm : 10.90
 Rated speed rpm : 1253
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1325
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 77.0
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 4.00
Tolerance mm : + - 0.10

Rated speed rpm : 300

CRT mm min. : > 5.50

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.95
Tolerance mm : + - 0.05

Rated speed rpm : 900
rack travel mm : 11.95
Tolerance mm : + - 0.10

Rated speed rpm : 650
rack travel mm : 11.95
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 11.95
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 400
rack travel mm : 11.70
Tolerance mm : + - 0.10

Pressure hPa : 250

rack travel mm : 11.00
Tolerance mm : + - 0.10

START CUT-OUT

Rated speed rpm : > 200
Check
speed 1/min : > 180
Rated speed rpm : < 300
Check
speed 1/min : < 320

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 800
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 3.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1253
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 165.0
Tolerance cm³/1000 strokes : + - 5.0
Check tolerance cm³/1000S. : + - 8.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 4.00
Tolerance mm : + - 0.20
Del. quantity cm³/1000 strokes : 15.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.5
Spread
Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 5.5